BIG K

No.9 DEC 85p

BANDERSNATCH!!

Screen Shots Inside

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1984 READERS' POLL

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THE LAST STARFIGHTER

How They Did It



The Fall Guy

Colt Seavers is a top Hollywood stuntman who uses the extraordinary skills he displays before the camera when moonlighting as a modern Bounty Hunter, who apprehends and brings in Bail Bond jumpers. Colt is ably assisted by his would-be manager Howie, his beautiful stuntgirl protege, Jody, and Terri the lady from the Bail Bond Company, who hires Colt when he's not before the cameras.

The cast of characters is:

Colt Seavers	LEE MAJORS
Jody Banks	HEATHER THOMAS
Howie Munson	DOUG BARR
Terri Micheals	MARKIE POST

The Dukes of Hazzard

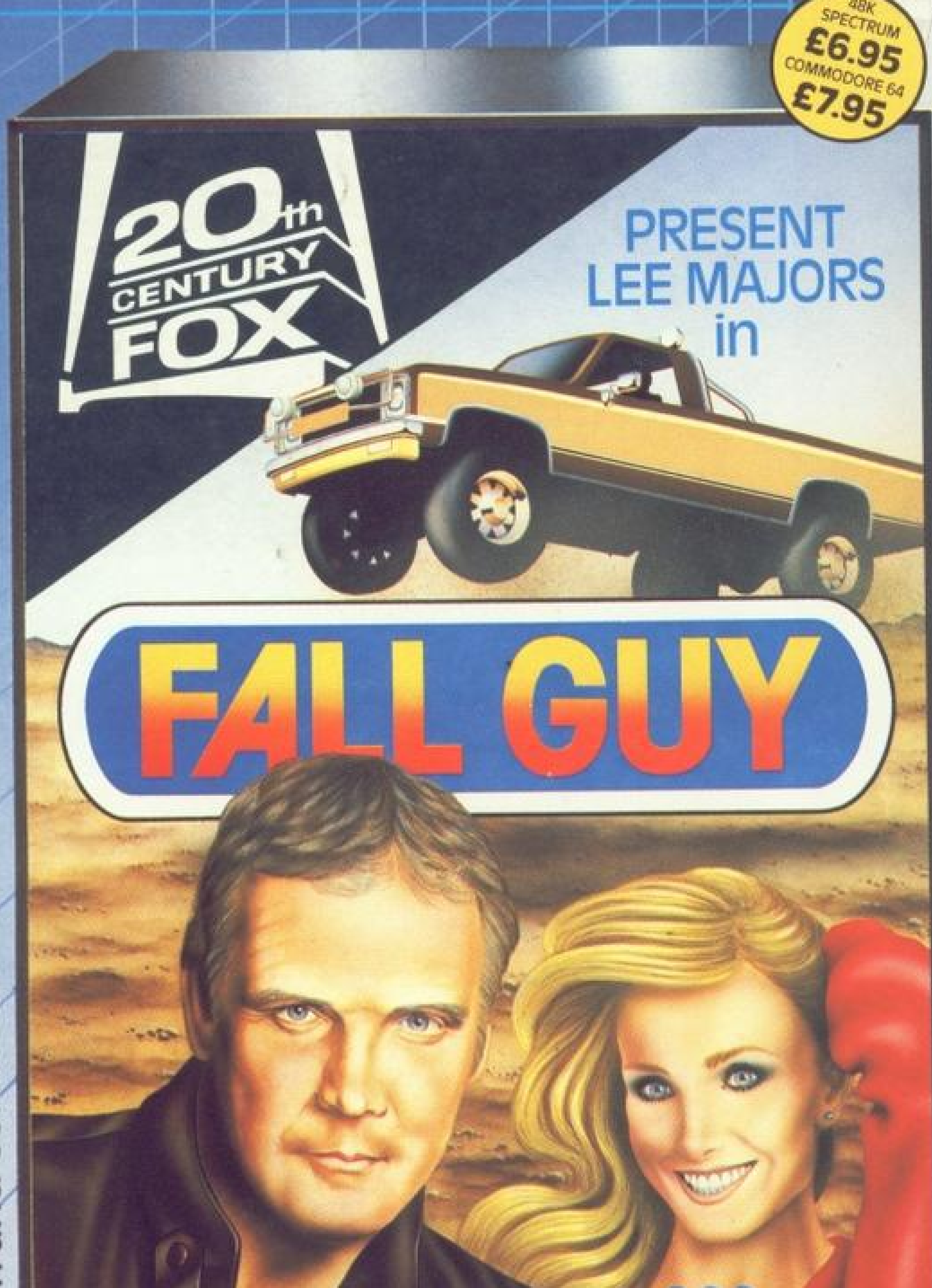
Its the 4th of July and as usual the Duke family want to have their annual party. The essential ingredient to make the party a success is moonshine, so its up to Bo and Luke Duke to take the General Lee and fetch the moonshine Uncle Jessie Duke has left scattered throughout the county. The problem is that Boss Hogg knows about the Duke Boys plans and has sent Roscoe and company out to stop the Boys collecting the moonshine.

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A LETTER TO SANTA

Dear Santa,

First of all, thanks for the rubber duck last year. I like legendary philanthropists with a sense of fun, though I'm hoping this year you'll be able to come through with the Sage IV originally specified.

We continue to make progress down here this side of the chimney. That is, we continue to re-vibe the product. Our editorial team swells weekly with gung-ho hackers, eyes agleam. I have to admit our new-look Charts failed to materialise last month (a mainframe went down), but we're on to that this time around.

Knowing your own penchant for hyper-atmospheric ligging, I recommend our four-colour blitz on THE LAST STARFIGHTER (p.55). We've also expanded (doubled) the size of our review section, which your Gnomes seeking out good Xmas blags may well find useful.

The Festive Season, in short, finds us in good heart.

Merry Christmas.

TONY TYLER

P.S. A Mac will do if Sages are out this year.

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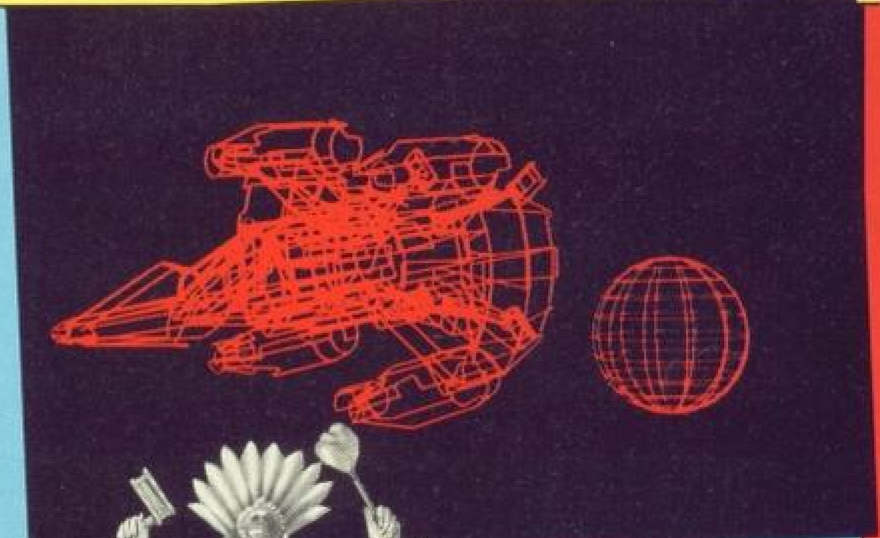
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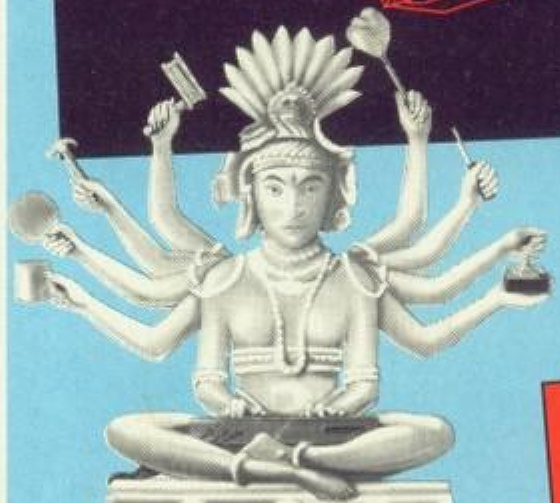
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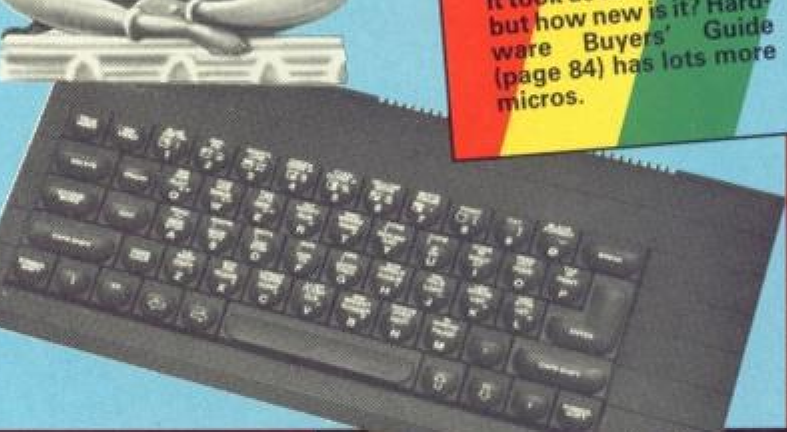
COMPETITION

BIG K JANUARY ISSUE will be on the stands a week or so earlier than usual. So watch out for us around **DECEMBER 10 — ONE WEEK EARLY!**



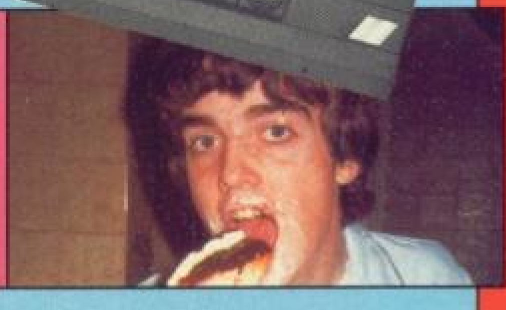
The wire-frame above is a Gun-Star in the making. On a Cray-XMP. Starfighters GOTO page 55.





It took us all by surprise, but how new is it? Hardware Buyers' Guide (page 84) has lots more micros.

Are you a secret lemonade drinker, small-hours snarfer or midnight muncher? Oric owners try pages 90-93 for a satisfyingly full feeling



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THE NEXT GAME COULD BE YOUR LAST
ROMIK
Watch out for the new Romik games: available now from all good stockists, or by mail order from PO Box 478, Slough.

FROM NOWHERE THE SPECTRUM+!



Sinclair Confess: "We Were Wallies Over The QL"

DESPITE VEHEMENT denials by Uncle (Sir) Clive on BBC Radio 4's Chip Shop programme (Sat. Oct. 13), it's acknowledged that Sinclair managed to pull a fast one with their new ZX Spectrum+. No one had an inkling that the new ZX, in its smart, bijou QL-style casing was set to invade the market. So naturally BIG K asked if they had learned anything from the QL Saga. In short, did Sinclair feel like a bunch of dorks?

"I'm not quite sure what a dork is," a company spokesman told us. "If you mean wallies — well yes, I suppose we did. Of course, this [the Spectrum+] is an extension rather than a new product. Nevertheless, we pledged that it would never, never happen again. This time, our rivals have been taken totally by surprise — they're all racking their brains to think of something new to compete. We've had a lot of criticism from them."

They think you haven't been playing fair?

"That's right. We now have a great advantage. Sinclair computers now span the price range — so you can start off with the basic Spectrum, and keep on upgrading — for example, the Microdrive expansion kit is compatible with the new machine. It's a lot better than something like the Amstrad, where you have to buy everything at once. It's a bit like an old-fashioned train set — you start with the very basics and increase the value of the system as you go on collecting through the range."

But the QL is incompatible with other Sinclair software and peripherals!

"... Um, yes."

So you won't be scrapping the Spectrum standard?

"No. The production of the new machine will be stepped up, with the production of the older falling off. But this does not precipitate a fall in prices."

Are you worried about the onslaught of MSX?

"MSX stage one hardly lived up to its potential. The second wave may have more impact."

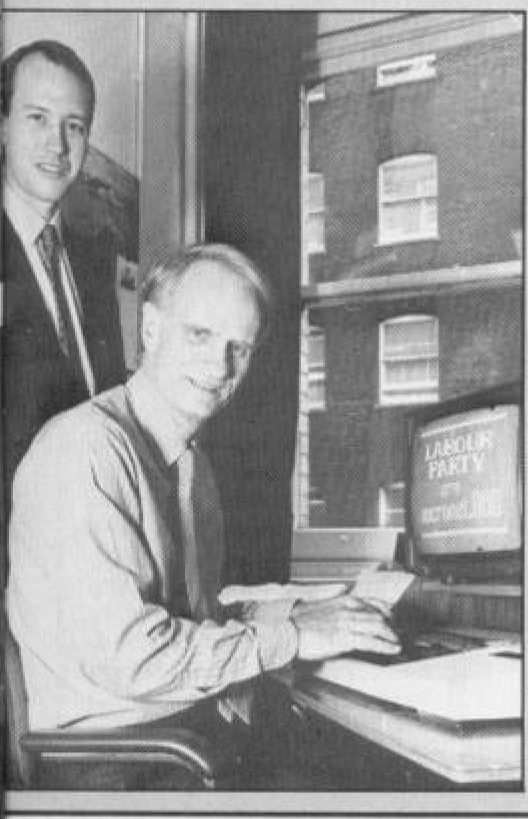
It also seems that Sinclair have got their distribution act together this time. Even as the Spectrum was announced, main branches of WH Smiths and Dixons were already stocked. So was it Sinclair's intention to scupper their rivals by releasing the "+" just before Christmas?

"Yes. The last quarter is very important for this industry. If you're top of the league at Christmas, the impetus lasts all year. We've currently got 43% of the market, whereas Commodore, our biggest rival, has 28%. We aim to have 50% by Christmas Day."

But will the new Spectrum+ revitalise the whole Spectrum market (generally considered to be in its 'autumn days' with the original Spectrum now over two years old)? Bill Scolding, editor of *Sinclair User*, has reservations. "It's a nice idea," he told BIG K, "but a shame about the price." Effectively, he considers that punters are just paying an extra £50 for a decent keyboard, when there are already several keyboards on the market for the original Spectrum.

"All it really means is that the Spectrum+ can be used for sensible word processing now, which makes it attractive for the business market." Bill feels that the existing Spectrum market is very much a hobbyist one in which the punters prefer to buy their own add-ons (i.e. keyboards).

The pricing of the Spectrum+ puts it squarely in the Commodore 64 marketplace, a machine Sir Clive admits he hopes to take sales away from — but, at the same time, it negates the price edge that the Spectrum has always had over its U.S. rival. — NICKY XIKLUNA



BROTHERNET ROW FLARES

FOLLOWING our revelation of the existence of BrotherNet (BIG K, June) (the Labour Party slice of the ubiquitous Micronet 800) we present an exclusive undercover shot taken recently inside the North Korean Embassy.

The occasion — allegedly — was the signing of a 'Peace Pact' between the representatives of Kim Il Sung, benevolent dictator of the land north of the 49th parallel, and the representatives of Arthur Scargill, Leader of the Labour Party.

Under the scheme shock troops of the prosperous Moscow-backed regime will shortly become available for flying picket duty in the trouble-torn industrial north of England, though on the insistence of Neil Kinnock (Deputy Leader of the Labour Party), they will leave their T-64 main battle tanks behind. In return, the Labour Party, using the matchless facilities of BrotherNet, will undertake to keep the reactionary Washington-backed hyenas of the Seoul regime hypnotised by specially-downloaded software, including *Refer Back, Revenge of the Mutant Miners, Plan For Coal, Hampstead* and other greatest hits of the '84 conference.

Pictured under incredibly sinister lighting conditions are (r. to l.) Dr. Jeremy Bray, Shadow Spokesman for InfoTech, and an unnamed North Korean agent.

ATARI RIDES AGAIN

128K ON-BOARD RAM and an all-new graphics chip called Marie are the features of a top-secret new range of Atari computers currently under development.

The new machines will eventually replace the existing 800/XL series, which is currently being chopped in price in order to help Atari keep some sort of profile together while the new range is brought to completion.

Marie replaces the older GTIA chip (which was itself able to produce 255 shades of colour); her vital statistics allegedly include the ability to generate unlimited sprites. The older Player-Missile system (first sprite system ever made) could generate only four Players and eight Missiles.

Pricing is said to be "highly competitive".

Watch this space.

MORE NEWS PAGES 4, 5 & 6

GARBAGE IN GARBAGE OUT

By The Shadow

AS THE year fails, the starlings congregate and **The Shadow** wearily resigns himself to the usual Xmas debauch, strange rumours flit through the land. 'Tis said that all is not well with mighty MSX — even that (whisper it who dares) the beasts may not, after all, be wholly, that is, entirely, compatible! Reeling from the shock — and trying hard to hide his sniggers — **the Shadow** (who spent some time during 1944-45 on the Burma Railroad) investigated, and found that said rumours have wide credence among software companies, a lot of whom it seems developed early MSX games on **Sony** HitBits, and are now worried that ever-so-minute changes made to the MSX spec since then mean that . . . we can't go on . . .

And while we're on the subject, can someone at **Toshiba** explain some pretty weird claims in their current ad. "I'm a Toshiba HX-10" it begins, going on to list all the good bits it's got from other machines, the implication being that none of the listed rivals has them all. So far so good. "64K memory like the **Commodore** 64" is acceptable (just), as is "a printer interface like the **Oric** Atmos". But what about the same Atmos's alleged "built-in power supply"? Or "sound output through the TV, just like the **Sinclair** Spectrum"? Surely some mistake here? . . . Delivering himself of this crushing put-down, **The Shadow** leaned back, opened a cold **Grolsch** and lit a gasper . . .

Relax, **Minter**; we probably won't publish the photo — you know, THAT photo; but a case of cold Grolsch would seal our resolve and guarantee the return of said feelthy pic . . . "Yes I am **Tony Crowther**" T-shirt seen being worn (by an unidentified fair-haired wally) at a rival mag's recent bash: not to be outdone, **The Shadow** is hoping to market **"You Too Can See All . . . If You Walk By Night"** lapel badges with flashing LEDs . . .

Real-life Keyboard Skills: to win a "valuable" prize from the Big K Mystery Software Hoard, just tell **The Shadow** the make of computer owned by **Lemmy** of the well-known heavy-metal ensemble **Motorhead**: seems ol' Lem's got hisself bitten by the D & D bug, and spends all night dorkslaying instead of whatever it was Lemmy usually does at night (the leather-clad folk hero continues to spend his days in bed) . . . Thought for the month: how does Lemmy tell the keys apart?

And finally, a long but not permanent farewell to **The Shadow** . . . a recent bout of broken legs has removed the poor old fellow from the Software Scene . . . In the meantime, all you moles, traitors, slime-merchants, gossips, rats, spies, hackers and Just Plain Folks out there beam your spleen to **Tony Takoushi** (known to millions of admirers as **The Ferret** or the **Kleftiko Kid**) at this address . . . but fear not: one day **The Shadow** will return . . .

On the First day of Christmas the **Editor** said to me: "You're fired . . ."

GIVING IT MORE STICK



FOR FANS of cute little black boxes for sticking on the back of Spectrums, here's a tasty little number from Kempston, makers of the most popular Spectrum joysticks in the known universe. It shows altruism on their part, too. It's a general purpose joystick interface, and allows you to use not just Kempston's own sticks, but also standard Atari models; or to replace Cursor key control with joysticks.

It seems cosmically amazing that no-one's turned out something of this sort before.

FITTER GLITTER ☆ CRITTERS ☆

WHAT DO Zsa Zsa Gabor, Nancy Sinatra and Bob Newhart have in common? (1) They're all in the databanks of the West Los Angeles Veterinary Medical Group. Er . . . that is, their pets are. Animal healthcare is big business in the States. WLAVMG alone had a turnover of $3 million last year — (its 45,000 animal subscribers probably having better healthcare than a large percentage of the city's human population).

The three-storey hospital and 17 vets take a sixteen terminal Alpha Microsystems computer to run. But on the system's inauguration, President Richard Gebhart



HE GETS PAID FOR DOING THIS

THE MAN under incredibly heavy manners here is Pete Stone. The contract he's signing is on behalf of his company, Palace Software. The product he's going to distribute is an acey-doocey anti-nazi adventure called *Valkyrie 17* (review upcoming). The people who made it are the Ram Jam Corporation. The other people in shot are Palace Software staff and a few passing Equity members. The picture was taken by a photographer. You are reading this in BIG K. Just don't say we don't give you the facts.

was "dismayed to find that no vetinarian software existed!" (Surprised?). The dearth prompted Gebhart to pioneer his own package. He probably doesn't regret it. This year Gebhart is marketing his pet pack as Veterinarian Systems Inc, for Alpha Microsystems.

Big K thought this a great idea and we've decided to go ahead and put the ape in our Apricot. We're none of us qualified veterinarians, so we're going into animal aromatherapy and faith-healing. So if your pet grasshopper has gone bow-legged, your newt has developed spots on his belly, your budgie can't quite reach middle C, or your pooch finds his diamond collar too heavy — let us know. We'll fix it.

"Computers, videos . . . I dunno, when I was a boy all I did was stay in and watch TV . . ."



Automata "Too Good For Industry" Row Flares

THOSE CHEEKY Pi-men from Automata UK are sitting on their next software release until the micro industry treats them better.

"Automata are too good for this industry," complained an embittered Christian Penfold, founder director of the outfit. He went on to explain that wholesalers just don't seem to be supporting Automata's product as much as they could. Their latest release, *Deus ex Machina*, the first "computer video", is apparently not reaching the punters. Penfold adds, "Furthermore, no-one's buying mail order these days. Automata's next product will be something truly wonderful, but we're just not going to release it until everybody pulls their socks up."

So don't say you haven't been warned. Pi-men and Uncle Groucho are officially an endangered species. The World Wildlife Fund will be contacted. Hold the front page.

PSYCHEDELIC GURU IN COMPUTER SHOCK

ANYONE out there remember Timothy Leary, author of the sixties' acid-head maxim "Turn on, tune in, drop out"? The man is back out in circulation again, and now he's advocating turning on . . . to home computing.

Says Leary, 'The ultimate psychedelic drug is computer software!'. He predicts that in three or four years every home computer will have a personalised operating system. Said operating system 'Will be there to externalise everything about your own personality.' Hmmm . . .

Whatever the man means, it would be ungracious of us to suggest any band-wagon jumping, and it is after all always pleasant to welcome a newcomer to the home computer field.

Sure it is . . .



QUILL UNQUELLED

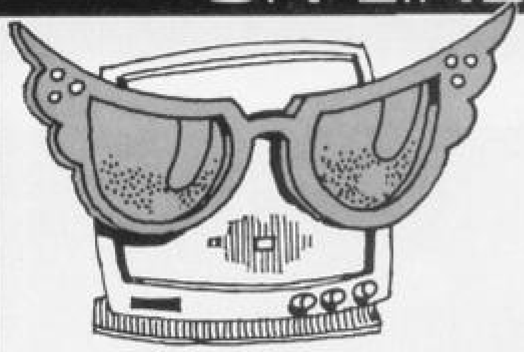
PREPARE YOURSELF for a sequel to the hugely successful *Quill* utility. Gilsoft have rewritten their excellent Adventure Editor and are promising an even more flexible writing tool than before. Quill 2 will feature abbreviated TAKE and DROP commands to preserve memory and allow user access to the interpreter (hooray!). Yes, that means that you can actually get to grips with those built-in passages! A most exciting development indeed. Hopefully this will mean a speedy demise for the horrendous 'Have a nice day' tag line.

It might even herald the end of another one of our pet hates, the term 'Quilled' (a worthless label if ever there was one).

Equally exciting is the launch of a Quill graphics utility called *The Illustrator*. A separate designer which will enable you to include full screen graphics in your *Quill* adventure. We've yet to see a working copy but presume that the database will be loaded into *The Illustrator* prior to processing as a standalone prog. Graphics will be created by manipulating two joined cursors and then filled with the desired colours. Fairly detailed visuals are promised using this method (we just hope the authors don't insist on drawing at every location).

The new Quill will occupy about 8K of the Spectrum's memory, *Illustrator* slightly less at 5K. This effectively means that on transferring your database you'll gain an additional 3K to play with. A full screen *'Hobbit'* styled graphic will cost around 250 bytes — so get planning! Databases written on the old *Quill* will be transferable although they may need trimming owing to the new Quill's larger size.

The Illustrator will sell for around a tenner (something of a bargain we'd say) and owners of the original Quill can upgrade by post.



TAKE IT EASY, EDNA

THERE follows a bulletin which has caused tears of sheer pride to well up behind the resplendent winged spectacles of Dame Edna Everage. Ozisoft have brought Australian written software to the British market. The company have been successful distributors of British and American software in Australia since 1982.

The expansion (or reversal) of their operations is heralded by the release of *Space Ace 2101*. Ozisoftware is destined for the CBM64 alone, and is available on disc or cassette (with fast loader). *Space Ace 2101* retails at £7.95.

Dame Edna comments: "This is a truly wondrous moment for the Australian Empire, darlings. My dreams will be truly sated when our very own, bestest hardware, the Wombat 4000, at last becomes a British household name, like me."

COMPUTER CHAT SHOW CRASH HORROR!

INTERNATIONAL teleconferencing is the name of the concept. The idea is simple, an international microcomputer network allowing technical and business users, and us less serious people to share thoughts, words and worldviews, using standard phone lines and the RS232 interface standard.

The technology was tried out recently in an experiment sponsored by those loveable MSX people. It involved linking Toshiba and Mitsubishi MSX machines based in the South of France with a Sanyo in Paris, which went on to connect with non-MSX machines, NEC and Sirius in London and a Tandy TRS100 portable in San Francisco. The result of this bizarre menagerie? Well, the non-MSXs had no trouble communicating, but the French connection just didn't work due to the fact that MSX machines aren't designed for the RS232 standard. They require an evidently unreliable black box stuck on the back. Ironic really and not a little embarrassing seeing as how the whole basis of MSX is intermachine compatibility.

MSX CORNER

MSX is coming at us from all sides but can you truly say you know everyone who's involved? BIG K tries to keep track of the latest recruits to the Cause.

● MR MICRO has thrown in some of its lot with MSX and announced five games: *Humphrey, Crazy Golf, Cubit, Zakil Wood* and *Punchy.* All will be priced at £6.90.

● CENTURY COMMUNICATIONS claim first place in the race to produce the first introductory book to MSX. *MSX — An Introduction* (snappy title, fellas) is written for the first-time user and covers the whole range of MSX machines from the different manufacturers (all of them?). The book comes in two forms, standard (pages, covers, etc.) and one that includes a cassette of MSX-BASIC programs — the latter available through the big retail chains only. Price is £7.95 for the book and £12.95 for the book and cassette package.

CUT OUT AND KEEP

MSX SPOTTER'S GUIDE

COLLECT THE SET!

No. 96785 YASHICA YC-64



Yashica's MSX entry is a 64K computer with 32K ROM for BASIC and 16K video RAM. It has two joystick ports, a cartridge slot and a Centronics/Parallel printer interface. Sound is handled through 3 independent channels covering up to 8 octaves. Text display is 32 characters per line, screen display is 256×192 and there are 16 colours.

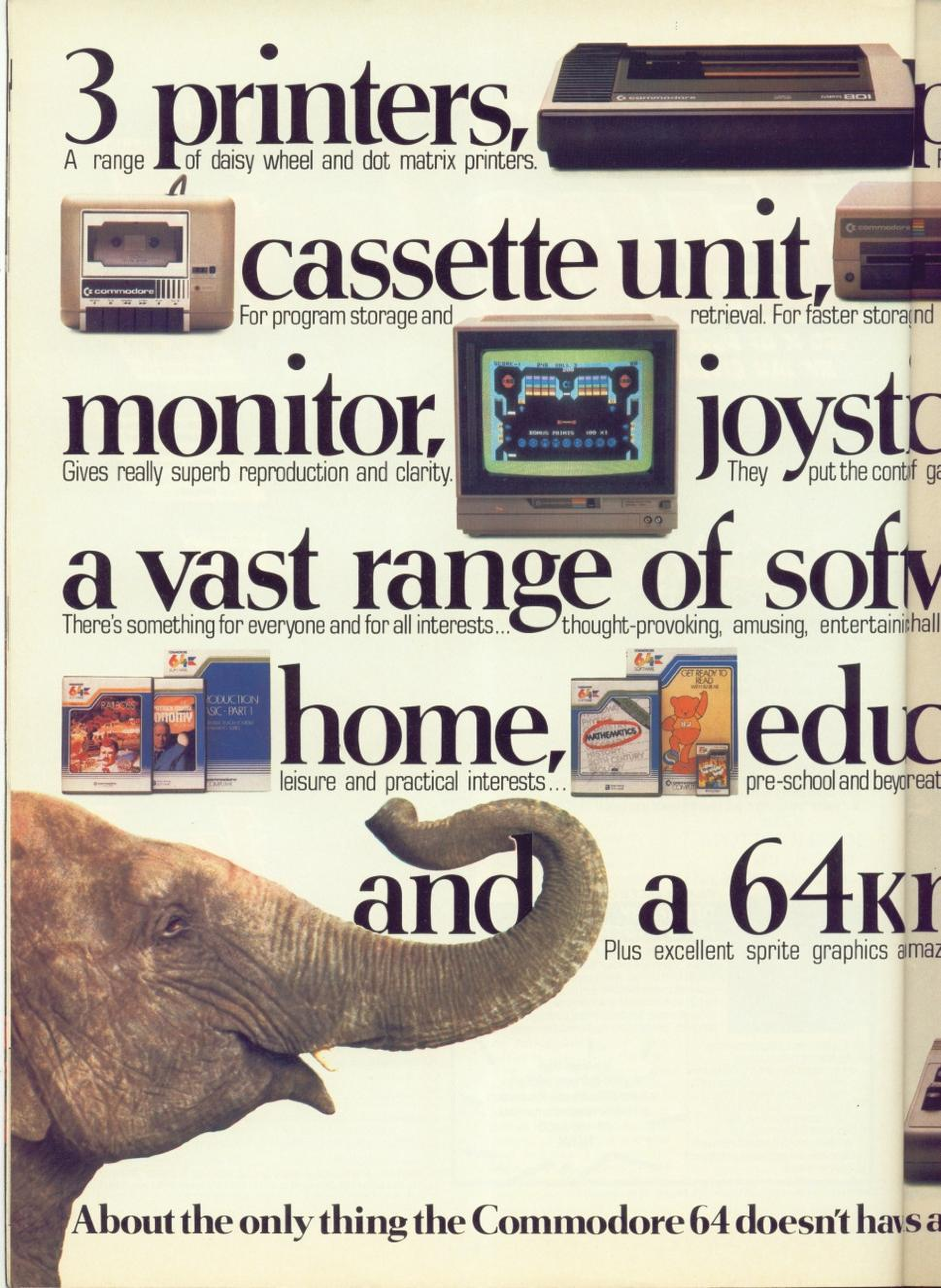
A BIG K READER SERVICE

THE SPECTRUM STRIKES BACK!

ANYONE out there worried about the limitations of small micros will be pleased to know that Imperial Life, a major insurance company, now depends on a Speck for many of its management reports.

The report system was written in BASIC by John Eckhart, an investment analyst who got into micros as a hobby. He found that the dp department (big, boring machines) were too busy to meet his needs, so lo! four Microdrives, a printer, and a lot of hacking, and the humble black plastic blob now turns out stock exchange reports on up to 500 programs.

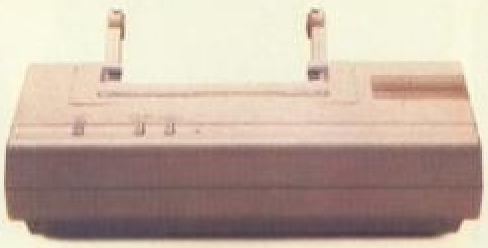
Just a hobby? Don't give us that, John.



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That Was The

ORWELL'S 1984 dawned with hope and promise and a lot of new stuff. As it wore on it proved to be a rough ride that nobody had expected. RICHARD BURTON checks his diary for the year . . .

JANUARY

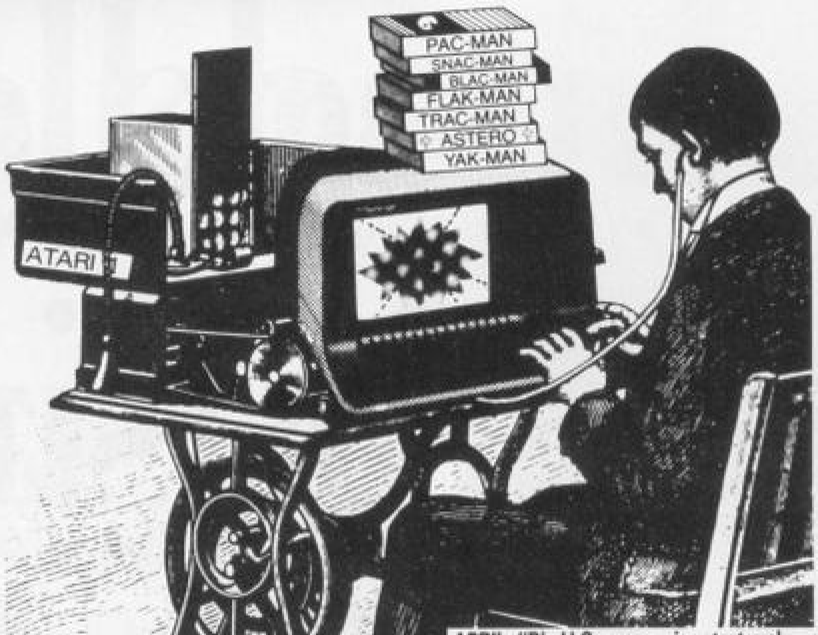
Oric announce the new Atmos — death-knell for the Oric-1 . . First hints of **Amstrad** entering computer market . . **Commodore** unveil 264 and 364 at Las Vegas . . **Jack Tramiel** resigns as Commodore Big Boss . . **Sinclair** lift lid off QL — the long wait begins . . .

FEBRUARY

Apple announce Macintosh — user-friendliness takes on new meaning . . **Coleco's** Adam due in Britain in 'first half of 84' . . **GEC** take over marketing and distribution of **Dragon** computer . . Rumblings at **Atari — Philips** said to be interested in partnership deal . . **Elan** changes its name to**Flan** (everyone laughs) . . **Lynx** 48K goes to mail order sale only . . QL: '28 day delivery' extends to beginning of March, then end of April. Letter goes out to mail order customers . . Crash of the Month: Computers For All chain goes under.

MARCH

Mattel pull out of electronics — Intellivision takes dive . . **Imagine** announce price cut to £3.95 for games . . **Flan/ Elan,** already 5 months late, announces delay till September, then changes name to **Enterprise** (everyone confused) . . **Acorn** announce 6502 second processor for BBC . . **Sinclair** Microdrive appears in shops . . **Imagine** troubles begin — **Marshall Cavendish** reject six games. Megagames advertised as 'under development' . . QL: **Sinclair** agree to compensation for customers who are still waiting . . **BIG K No. 1** goes on sale — punters cheer, companies quake, earth moves . .



APRIL: "Big U.S. companies start rush from video games to computer games . . ."

APRIL

Imagine changes mind about price drop . . **Mastertronic** launch £1.99 games — budget software arrives . . **Amstrad** announces CPC464 . . **Commodore** hints at C16 . . **Apple** announce IIc . . *Jet Set Willy* appears, zooms straight to No. 1 . . Big U.S. software companies start rush from video games to computer games — Spectrum targetted in Britain . QL: the dreaded 32K dongle is revealed . . .



JULY: "Imagine crashes . . a spokesman comments . . ."

MAY

Boots, British Home Stores drop Dragon 32 . . **MSX** Invasion gets green light for Britain . . **Sinclair** drop ZX Printer . . **Palace Software** start move towards game-of-the-movie titles — *The Evil Dead* announced . . **Vectrex** video game system gets deep sixed . . QL: first batch of 100, dongled-up, machines out . .

JUNE

Ultimate launch *Sabre Wulf*. . **Radofin** announce Aquarius 2 . . **Commodore** show Plus/4 and C16 at Chicago CES . . **U.S. Gold** launched — *Beach Head* roars into charts — Yank software invasion starts . . **Argus Press Software Group** buy **Quicksilva** . . **Acorn** announce Plus-1 expansion unit for Electron . . **Atari** announce third video game system, the 7800 (everybody yawns, again) . . Crashes of the Month: **Dragon** calls in Receiver . . **Computers** (Lynx) go into liquidation . . **Carnell Software** calls in Receiver . .

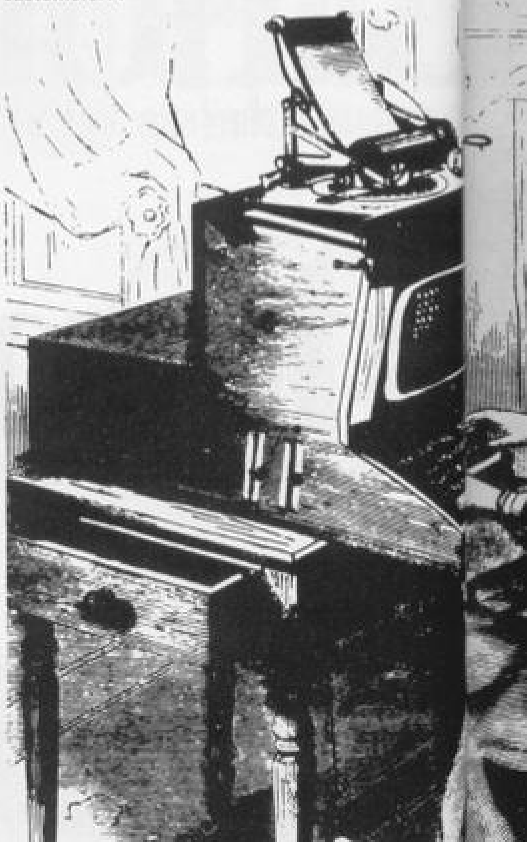
JULY

Warner Communications sells **Atari** to Jack Tramiel . . **Eurohard SA** buys Dragon, moves production to Spain . . **Amstrad** goes on sale — on schedule . . **Mastertronic** take over marketing of Carnell games . . **ACT** announce sub-£1,000 F1 range . . Crash of the Month: **Imagine** insolvent, lay off two thirds of staff then call in Receiver . . .

AUGUST

Sinclair plan to scrap 16K Spectrum in the Autumn . . **Oric** hits cashflow problems, sues advertising agency — and loses . . **Atari** slash hardware and software prices . . **Activision** sues **Microdeal** over *Cuthbert in the Jungle* — and wins . . **Legend** announce *Valhalla* follow-up — *The Great Space Race* . . Former **Imagine** directors fail to keep Megagames out of Receiver's hands . . **Acorn** announce range of business micros . . QL: first machines returned for ROM refit . .

MAY: "QL . . first machines go out to customers . . ."



Illustrations from "The Computer Wimp". See page 118.

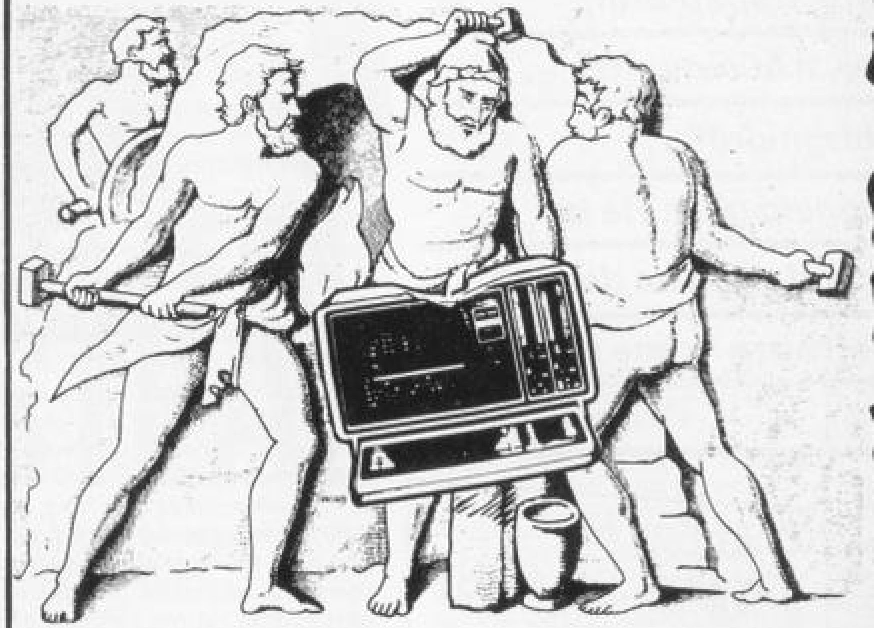
e Year That Was

Crashes of the Month: **Rabbit Software** goes into liquidation . . **Fuller** go into receivership (long-delayed Spectrum keyboard blamed). . .

SEPTEMBER

Commodore put down VIC 20 in favour of C16 . . **Atari** axe 600XL, cut hardware prices again . . **Marks & Sparks** move into software scene . . Melbourne House — finally — bring out *Sherlock*. . **Softek** form The Edge to produce 'megagames' . . **Virgin Games** buy use of **Rabbit Software** name . . QL: on sale over the counter for first time . . **Acorn** unveil ABC business range . . Crash of the Month: **Digital Fantasia** go into liquidation. **Channel 8** Software take over marketing of their *Mysterious Adventures* series. . .

SEPTEMBER: "Commodore drop VIC 20 in favour of new C16 . . ."



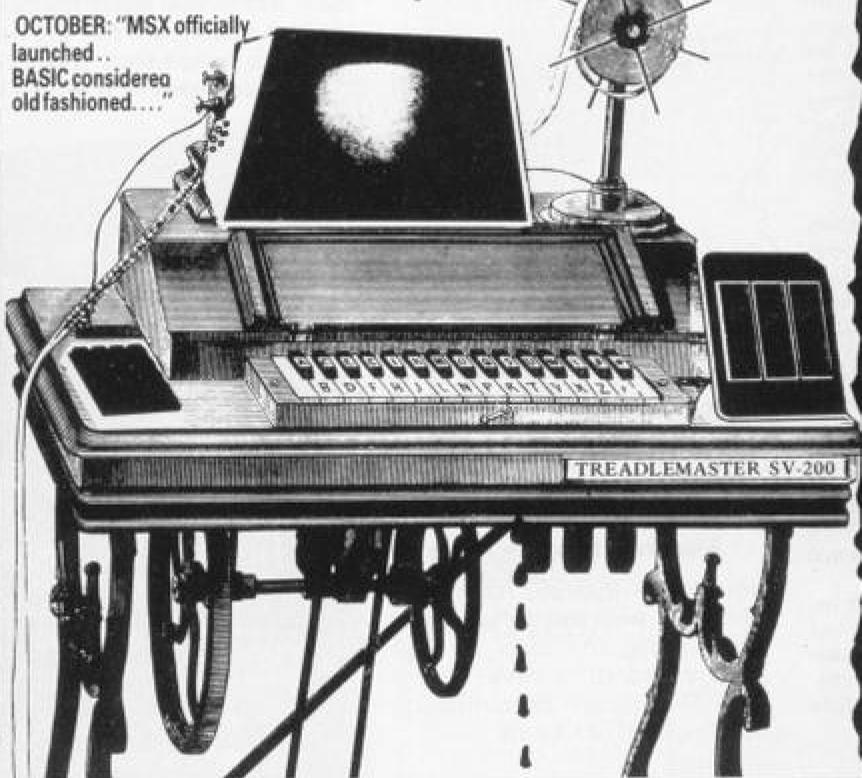
OCTOBER

MSX officially launched in Britain — seven machines, some on sale before Christmas . . **Atari** announce new 16-bit and 32-bit machines for 1985 . . **Sinclair** spring **Spectrum**+ surprise on QL-battered public — Sir Clive denies its existence on BBC Radio two days before official announcement . . **Ocean** buy **Imagine** name — plan to use it on new range of 'prestige' games . . **Sinclair** snatch *Bandersnatch* for QL conversion . . Worries over MSX compatibility surface. . .

NOVEMBER AND DECEMBER

As of writing these months have yet to happen — magazine production is a funny thing. All you can be sure of is that very few leaves will be left on the trees in November and Christmas will come in December! That and the fact that a lot of computers and software will be around during these months.





OCTOBER: "MSX officially launched . . BASIC considered old fashioned. . . ."

1984 INS

- Sinclair's QL
- Amstrad CPC464
- Oric Atmos
- Commodore 16
- Commodore Plus/4
- MSX
- Apple Macintosh
- Apple IIc
- Acorn ABC range
- Mastertronic
- U.S. Gold

1984 OUTS

- Imagine Software
- VIC 20
- Spectrum 16K
- Oric-1
- Intellivision
- Vectrex
- Rabbit Software
- Carnell Software
- Camputers (Lynx)
- Fuller

1984 TRENDS

- Olympics-inspired games
- Graphic adventures
- American software
- Budget software
- Games endoresed by celebrities
- Games based on TV series and movies
- Multi-screen games
- Flight sims
- Improved graphics
- Cash prizes for solving adventures
- Games/graphics/adventure designers
- 'Anti-piracy' gimmicks
- Books on computers
- Computer magazines
- Cute characters
- Sequels and follow-ups
- 'Star status' for programmers
- Atari/Imagine/QL watching
- Banning ZX81s from Russian military use
- Disc drives
- Fast-loading systems for CBM64 cassette games

GOSSIP . . . GOSSIP . . . GOSSIP

The FERRET
Tony Takoushi

He walks along, a shadowy figure in a filthy raincoat, with a snap-brim fedora on his bonce, a Microwriter in his pocket and his midriff festonned with bugging gear. He is TONY TAKOUSHI, and what he doesn't know about the Software Scene ain't worth knowing . . .

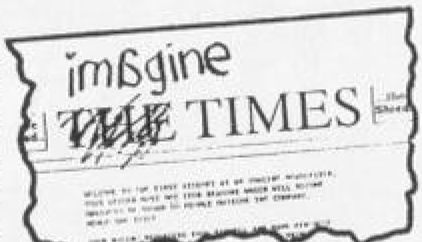
THIEVERY is rife these days, even with the stringent security adopted by Commodore. Having experienced first-hand their security checks at Corby and Slough, I assure you they are thorough, well thought out and even Houdini would have problems escaping, let alone stealing anything. However, at the Commodore show in June at the Novotel Hotel, the exhibition hall was locked up every evening. Admission could only be gotten by a signed pass from two of the Commodore hierarchy. Still, on the first evening, a Ferguson video was stolen . . .

While I'm on the subject of Commodore, it appears Jack Tramiel (ex-Commodore chief) came over to the UK with one of his sons (either Sam or Len, — thanks, Dad) to visit the Atari headquarters in Slough. This despite an official cancellation (to the computer press) of a Press Conference he was to have held to announce Atari's plans for the future.

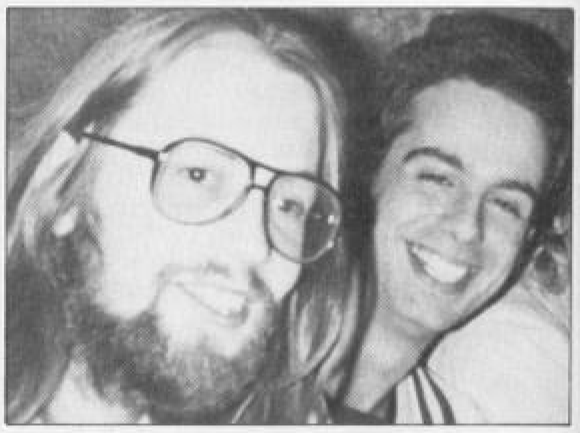
After the huey of his leaving Commodore, Tramiel (Jack to his friends. .) appears to have the dubious honour of a game being named after him. Recently released in the US and due for release in the UK is a game called Jack Attack. The game involves 'Jack' leaping off high piles of blocks and flattening the nasties below him . . .

THE MECHANICAL Protection copyright Society are those wonderful people who ensure songwriters get their royalties for their songs. So what, you ask? Well after some market research it seems there are plans to recover monies due from some of the UK's top software houses as they are using tunes in their games and not paying for the privilege. And just how much is the society asking for the software houses? Why, a mere one pound for the master tape and between three and five pence (depending on the amount of music used, five pence being for continuous background music) for each tape produced. I have a feeling we may well be seeing many more original compositions in the future.

THE ATARI home micro has a classic game in the 8K rom cartridge *Star Raiders*. Now it can be revealed who wrote this masterpiece way back in good old 1979. It was a German by the name of Dave Neubahre. I like to know if anyone out there knows where he is . . .



From the Imagine Times, an underground mag from that Happiest of ships . . .



One of these men has an obsession with camels. But which one?

SPECTRUM owners take note. If you are planning to buy a copy of the arcade game *Zaxxon* from Starzone Software then buy it quick as Ocean has threatened legal action against Starzone and the game has been withdrawn from the market. Ocean has the rights to Zaxxon in the UK and is planning to release its own version for the Spectrum.

Jeff Minter's classic game *Gridrunner* is one of the best VIC 20 games ever written. Jeff chose the title *Gridrunner* after seeing the film *Bladerunner* which starred Harrison Ford.

The good news — For those of you who wish you could run Commodore 64 games on the Spectrum there is now hope. If you have a copy of *The Pyramid* (Commodore 64 format) from Fantasy Software then try loading it into a friend's Spectrum. It loads a Spectrum file off the 64 tape format. You will be greeted with the following, *'Bytes:Pyramid'*.

The bad news — It won't run!

PALACE SOFTWARE — a sinister force is wreaking its revenge on Richard Leinfellner, the programmer of *The Evil Dead*. With the launch of the game at the London Dungeon a faulty tape meant the game could not be shown to the press. When the game was finished Leinfellner was run over by a 'possessed' car driver as he tried to deliver the master tape to the duplicators. Sheer co-incidence or . . .

Imagine — Where are they now? There *is* life in Liverpool after the Imagine crash, in fact many of the programmers, graphic designers and musicians are now well placed in other software houses and art studios. Jake Glover is now at Voyager Software, Mega-Game programmers John Gibson and Ian Weatherburn have set up graphic design studios called Denton Design, whilst others have gone to Concept Software and Peripheral Pictures.

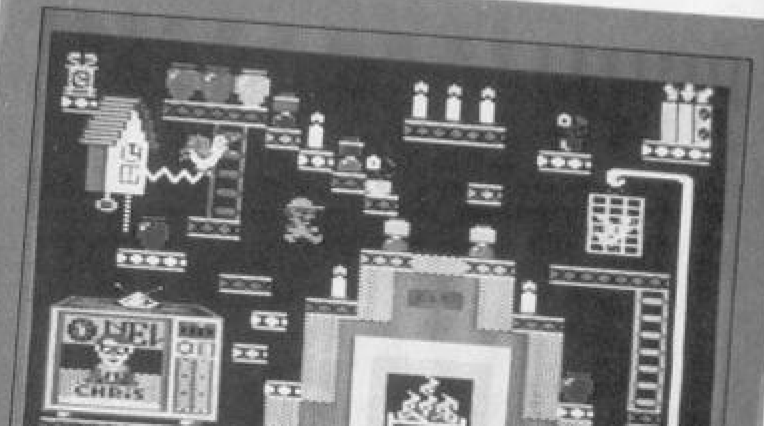
Imagine produced its own inhouse magazine, snippets of which I'll use over the next couple of issues for your delectation, all in the best possible taste . . .



DOUGIE BURNS: IF YOU POUR PETROL OVER HIM

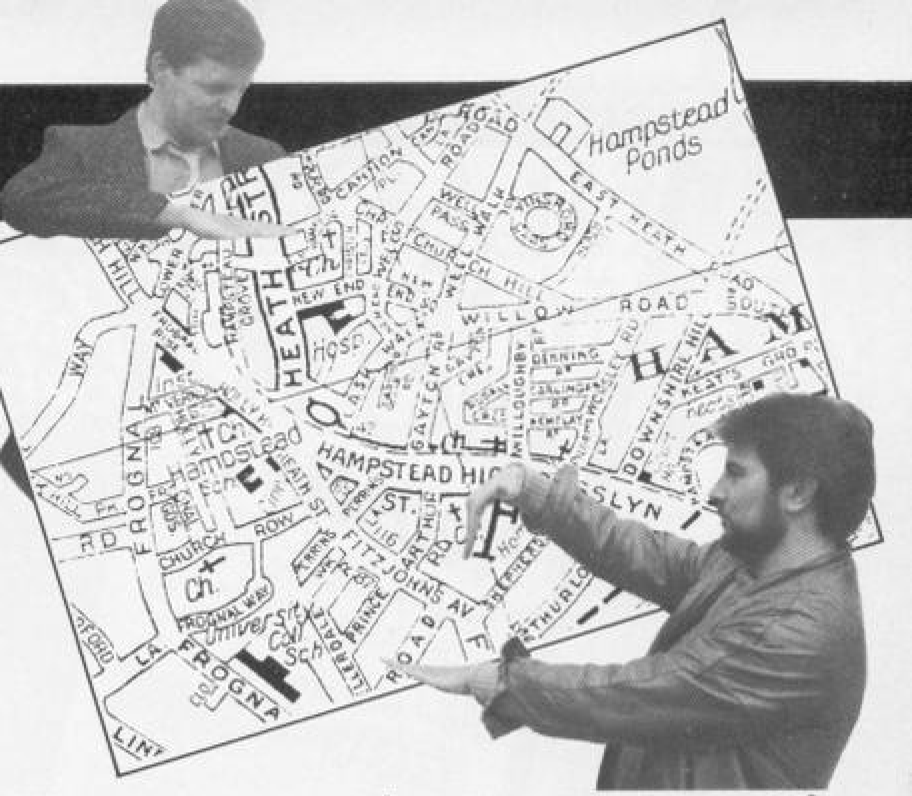
Also from Imagine Times

Ultimate — Rumour has it that Ultimate will be releasing a game along the lines of their (now standard) arcade adventure. The title will be something like The Staff of Kharna . . .



The screen above? From a VERY pretty game — and a right royal romp. More next month.

BIG K AND MELBOURNE HOUSE PRESENT THE JOURNEY OF A LIFETIME



WIN A TRIP TO HAMPSTEAD

Visit the London borough that inspired top-selling computer game!

Yes, folks, some people have to work for years to 'attain' Hampstead . . . BIG K actually takes you there on a fabulous, all-expenses-paid visit.

CHECK OUT OUR TOP PRIZE:—

- ★ Travel for you and one guest from any part of the country by rail to a mainline London station.
- ★ Collection by chauffeur-driven car which will take you directly to Hampstead.
- ★ A personal guided tour around the 'village' by Trevor Lever and Peter Jones, authors of *Hampstead.*
- ★ A fantastic meal at top Hampstead eatery, The Orchard restaurant.
- ★ The complete range of Melbourne House software for your computer, including, of course, the *Hampstead* game itself.
- ★ Transport back to the station and, ultimately, home.

Can you afford to miss such a life-enriching experience?

- ● 25 runners-up will be able to practice 'attaining' Hampstead with their own copy of the game (Spectrum 48K and Commodore 64 owners only).

HOW TO ENTER

How do you get to Hampstead? The answer is *not* 'by bus'. One, in fact, does not go to Hampstead, one 'attains' it by reaching an acceptable level of social status. That's the theme of Melbourne House's new adventure game . . . and the theme of our daring competition. How much do *you* know about social climbing?

Presented here are ten incomplete statements about this heady pastime, each with three words or phrases which might be used to fill the gap. Which one most aptly or accurately completes the statement — A, B or C? Under each statement number on your entry coupon write the key letter of the alternative you select for that statement.

Having completed all ten statements in this way, complete the coupon with your ow full name, age (if under 18) and address, and post your entry in a sealed envelope to: BIG K HAMPSTEAD COMPETITION, 55 EWER STREET, LONDON SE99 6YP. All entries must arrive by Monday, 31st December, 1984, the closing date.

IMPORTANT

Before sealing the envelope containing your coupon, copy out (on the outside back of the envelope) the key letters (A,B,C) of your ten chosen answers in exactly the same order as they appear on your coupon. YOUR ENTRY MAY NOT BE CONSIDERED IF THIS IS NOT DONE.

Write the name of your computer (or one you have access to) on the back of the envelope. Do not enclose any correspondence or matter other than the entry coupon.

RULES

There is no entry fee but each attempt must be on the official entry coupon cut from BIG K and must bear the entrant's own name, age and address.

All accepted entries will be examined, and the judges will award the first prize to the entrant they consider to have shown the greatest skill and judgement in assessing how the listed alternatives most aptly or accurately complete the ten statements. Remaining prizes will be awarded for the next best entries in order of merit. No entrant may win more than one award. If a prizewinner is aged under 18 years then parental consent must be supplied before the prize can be awarded.

Prizes must be accepted as offered — there can be no alternative awards, cash or otherwise. In the event of any ties, those tying will take part in a further test of skill, to be held by post, to determine the winner(s).

Entries arriving after the closing date will not be considered, and no responsibility can be accepted for any entries lost or delayed in the post or elsewhere. Any entries received incomplete, illegible, altered, mutilated or not complying exactly with the instructions and rules will be disqualified.

Decisions of the judges will be final as will those of the Editor in all matters affecting the competition. No correspondence will be entered into. Entry implies acceptance of the rules as final and legally binding.

The competition is open to all readers in England, Scotland and Wales other than employees (and their families) of IPC Magazines Ltd., Melbourne House (Publishers) Ltd., or the printers of BIG K.

Winners will be notified and the result published in a later edition of BIG K.

1. Social progress depends most on . . . . . .
A. what you wear B. where you go C. who you know

2. What really matters is that you should be . . . . . .
A. an opportunist B. polite C. dedicated

3. Don't be afraid to be . . . . . . to achieve success
A. ruthless B. brazen C. dishonest

4. The Hampstead Man eats . . . . . .
A. quiche B. muesli C. wholemeal bread

5. Invited to partake of an afternoon drink one should ask for . . . . . .
A. mineral water B. creme de menthe C. tea

6. The social climber can always . . . . . .
A. drop a name B. produce a cigarette lighter C. cadge a drink

7. The Hampstead Man has . . . . . .
A. a dog B. gall C. only himself to blame

8. To attain Hampstead one requires . . . . . .
A. je ne sais quoi B. savoir faire C. no knowledge of foreign languages whatsoever

9. On no account should one lose one's . . . . . .
A. credit worthiness B. trousers C. address book

10. A Hampstead Man always has a good . . . . . .
A. job B. lunch C. excuse

ENTRY COUPON

BIG K HAMPSTEAD COMPETITION

1	2	3	4	5	6	7	8	9	10

In entering this competition, I agree to abide by the rules and to accept the published result as final and legally binding.

NAME .... ***AGE*** ...... *(if under 18)*

ADDRESS ....

....

....

MY COMPUTER IS ....

PLEASE CUT NEATLY AROUND THIS LINE

LET'S GET CRITICAL...

THE BIG K *Reviews!*

COMPUTER GAMES
VIDEO GAMES □ UTILITIES

How we rate them–

KKK	= Magnifico!
KK	= Good-o
K	= So-So
None	= No-No

Reviewers–

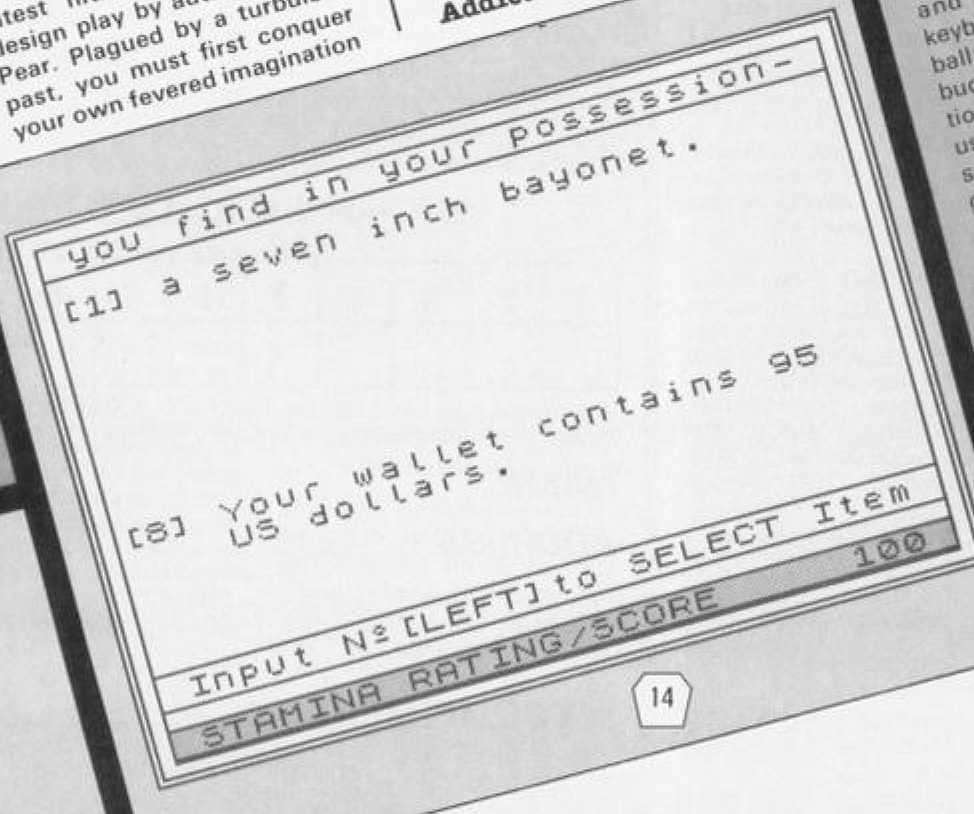
Steve Keaton
Trevor Spall
Kim Aldis
Nicky Xikluna
John Conquest
Dave Rimmer
Fin Fahey
Gary Liddon
Richard Cook

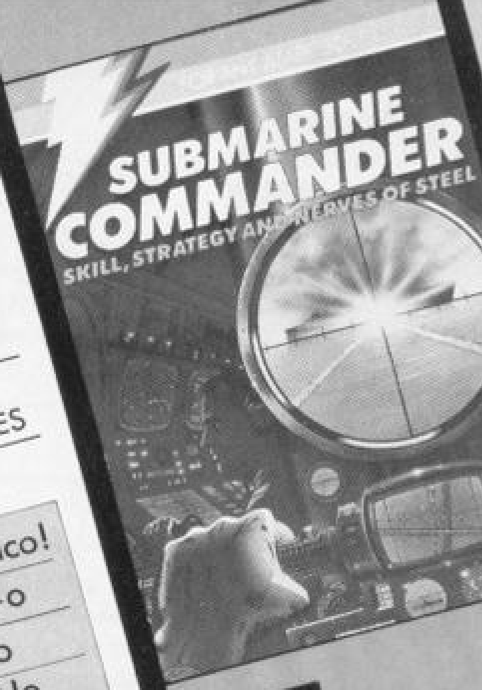
KK

THE WASTER
Spectrum 48K

You toss and turn in your bed. Images flash by. You recall being spat on and shot at in Iraq. The regular beatings and torture in a Cambodian jail . . . So begins this novel text adventure that manages to impress despite he shoddy DIY packaging. You play a C.I.A. assassin, known to his colleagues as The Waster, an ex-Vietnam vet not generally regarded for his sense of humour. The program comes in two parts. The first involves a nightmare journey throught The Waster's troubled psyche, in which he relives slabs of Nam and New York life, and the second which details his latest hit. It's an effective design play by author Steven Pear. Plagued by a turbulent past, you must first conquer your own fevered imagination before embarking on the final sanction. The two parts can only be played in sequence. (The text is similarly dramatic. 'Bullets snap past you like taut steel whips' is a typical line.) Such sparkle more than compensates for the occasional spelling gaff. A shame then that the game is rather spoilt by a single key command input routine. It won't recognise anything pther than the ten pre-set options (eg., 'T' for take, 'E' for eat). This kind of set menu is hardly conducive to a good mental romp. — S.K.

From: HARD DATA
Format: cassette
Price: £5.95
Graphics: None
Playability: KK
Addictiveness: KK





KK

SUBMARINE COMMANDER
Atari

The beep of the sonar, the crash of the depth charges, the horrid sounds of your sub breaking up; this is real old-fashioned *Run Silent, Run Deep*, war-movie stuff. You command a sub in the Mediterranean, of which you get a map display showing your position, enemy convoys and land masses. When you get within striking distance of the tankers, cargo ships, destroyers and patrol boats you're after (the latter of which are, of course, after you) there's a one mile range periscope view. The instrument display shows a hydrophone chart, attitude, compass, torpedo supply, fuel, battery charge, speed, sonar screen, air supply, damage, a clock, depths below the keel and below surface and tonnage sunk. The joystick controls movement, including diving and surfacing, while the keyboard takes care of speed, ballast, tanks, crash dives, and buoyancy. Excellent instructions tell you the function and use of all these factors, with some hints on tactics. A very good game, though I found it a bit hard to control direction, but there is one thing about it that does bother me. For a 32K game how come it isn't noticeably better than Intellivision's *Sub Hunt*? Nonetheless, if you're looking for one that calls for brains rather than reflexes, this is a goodie. — J.C.

From: CREATIVE SPARKS
Format: cassette
Price: £8.95
Graphics: KK
Playability: KK
Addictiveness: KK

K

AIRSTRIKE 2
Atari

Score plenty for technique, S. A. Riding, whoever you are — a lot less, if anything for originality, and absolute zero for style. The concepts of *Airstrike 2* is far from new (*Cobra* and others). You guide your fighter through five scrolling sectors, bristling with rockets, missiles, aerial mines, interceptors and the like, destroying everything you can. There's a new problem, usually several every moment, on top of which you have to worry about fuel and ammo which you pick up in that standard, but nonetheless weird computer game way by bombing appropriate depots. Your missiles are joystick fire button operated and you can drop bombs either by tapping the space bar or, having typed 't', by "tipping the joystick forward slightly as you fire missiles". Oh, yeah? I should cocoa. The game is crammed with hazards and options and would take a while to master, but sooner you than me, pal, because it's a real eyesore. The landscaping is low low-res, the 32K version's radar scan is utterly useless and it's next to impossible to make out the scores and status reports. It may be very clever but it's a terrible looking gam[e] and I, for one, spend too mu[ch] time in front of a VDU to wan[t to] have to look at something ugly. — J. C.

From: ENGLI[SH] SOFTWARE
Format: cassette (16 side), 32K B side)
Price: £29.95
Graphics: Nuff sai[d]
Playability: K
Addictiveness: K

IS THIS A KEYBOARD THAT I SEE BEFORE ME?

FIN FAHEY finds Oxford Digital Enterprises' *MacBeth* bites him in his 'O' level sore spot.

A MIDSUMMER SPRITE'S DREAM
or MUCH ADO ABOUT ZERO

Scene 1: You are in a forest.
EXITS: South
You can see: Lots of birds, green things and stuff.
Enter ***Puck*** and ***Macbeth***.

PUCK: Good my lord, what makes this weary countenance? For thy frame downcast is, as tho' by leaden harness burdened.

MACBETH: Thou knows't my repute. For each day a thousand players strut the boards in most faithful enactment of my bloody deeds. Would that the tale were told by an idiot! Yet 'tis most keenly related and the sweaty mob to loudly clamour for attendance. Yet this besets me not, but from learned Oxford issues news of further calumny.

PUCK: Aye, 'tis said aboard. Is't not a game of which thou speakest, and yet one conjured with devices so skilful that, from a vantage of ease and homely comfort, the smug player may let hap events the like of which Scotland's turf was ne'er privy to?

MACBETH: A long sentence, but thous speaks't sooth. The very judgement of time itself now in every common home goes not unchallenged. 'Tis unseemly, and besides nought is there in it for me.

PUCK: Methinks from thy loss of royalty, yet others do gain royalties.

(*Enter* a drained and weary ***Programmer***.)

PROGRAMMER: Haste, haste! Lest life's thread doth snap untimely! To Oxford fly! For the years' nocturnal hackings let just remuneration be made!

(Exeunt, absent-mindedly dropping a floppy disc)

MACBETH: Now doth fortune favour the fittest! See, flighty Puck, this slight wafer, of lodestone clad, doth hold an account most interactive of thy own adventurings.

PUCK: What favour dost ascribe to this? Meseems 'tis a chance most dolorous.

MACBETH: Why, thy wits are addled. See thou not that Albion's folk do grasp eagerly at a entertainment. To market shall I haste!

PUCK: 'Tis piracy! Fifty-fifty?

MACBETH: 'Tis thy play, and charity doth become a king. Thirty parts in every hundred shall be thine.

PUCK: (sulkily) With condition the marketing shall be thy domain!

MACBETH: 'Tis done.

(They shake hands)

Macbeth goes to pick up disc.

DISEMBODIED VOICE: You can't carry any more!

MACBETH: We are undone! Quoth the witches, bubble bubble, toil and trouble. Recalled well is it for mine is a bubble memory! Aye 'tis e'en so! Lay on, 'tis duff!

(Runs on sword. Dies)

PUCK: O impulsive prince! Thou shouldst have dropped thy blade, space to make, not employed it thus. All profit to Puck falls. 'Tis an ill wind!

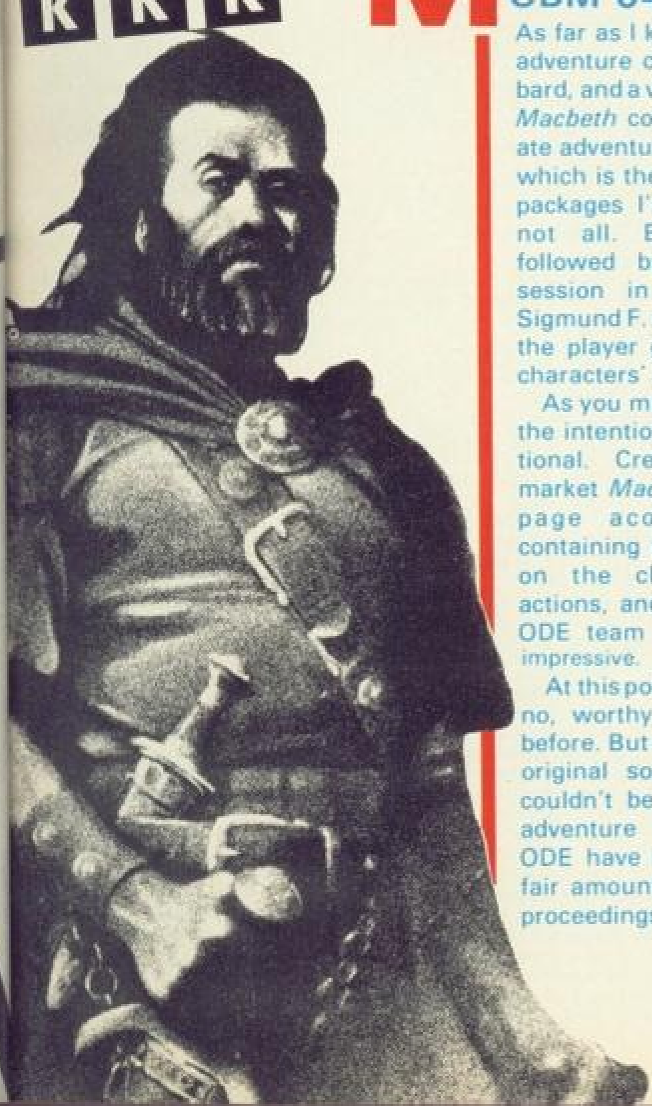
(Picks up disc and goes to exit South)

DISEMBODIED VOICE: You can't go that way!

(Puck sits down on a toadstool and weeps.)

End of Scene

K K K



MACBETH
CBM 64

As far as I know, this is the first adventure crack at the immortal bard, and a very hefty one it is too. *Macbeth* consists of four separate adventure segments, each of which is the size of many single packages I've seen. And that's not all. Each adventure is followed by a psychoanalysis session in which cranky old Sigmund F. is resurrected to help the player gain insight into the characters' motives.

As you might gather from this, the intention is definitely educational. Creative Sparks, who market *Macbeth*, supply a 169-page acoompanying book containing the play itself, notes on the characters and the actions, and a run-down on the ODE team itself. This latter is impressive.

At this point you're thinking, oh no, worthy but boring, seen it before. But no! For one thing the original source material really couldn't be better suited to an adventure game, for another ODE have managed to inject a fair amount of humour into the proceedings, although they do seem to have a dubious obsession with privies.

Each game depicts one of the dramatic moments in the play. The first sees Macbeth as a goodie — you have to save Scotland from rebels and Norwegian invaders. In the next, you become Lady Macbeth. Tricky this one, you have to get the castle ready to entertain King Duncan, lull him into a false sense of security, and then persuade Macbeth to see the poor guy off without getting caught, literally, red-handed.

After, this the scene moves to the witches. The ingredients for their port, many of which I remember as being quite unwholesome (liver of basphem-ing Jew?) have to be gathered. Finally we finish up in Dunsinane castle with the enemy at the gates fetchingly disguised as shrubbery. You have to resist the siege and butcher MacDuff before he performs the same service for you.

Very little of this action is actually in the play. For example, the initial battle scenes are toid second-hand by a wounded sergeant in the original. As a result it tends to fill out the gaps in the same way as the epic Polanski film version.

The analysis programs are very much linked to the academic side of things, but I found them entertaining. They're not your Eliza free-form conversations though, but multiple-choice sessions which get pretty cross if you stray from the point.

Given the naffness of adventure software in general, *Macbeth* is surely a step in the right direction. I really don't mind being educated by a program, as long as I don't notice it happening, and that's what this does. But what's the next step? The prospect of Hamlet, my personal favourite is mouth-watering. In the mean time, this should keep me up for a few more nights. — F.F.

From: CREATIVE SPARKS
Format: cassette
Price: £14.95
Graphics: KK
Playability: KKK
Addictiveness: KKK

JOIN THEM And start by choosing any three games for half price

(plus p&p)



THEN GO ON TO MAKE HUGE SAVINGS ON AROUND 400 OTHER TOP TITLES EACH MONTH

COMMODORE 64

	Rec. Retail Price	You Choose at Half Price	Item Code	Software House
Android 2	6.90	**3.45**	07160	Ocean
You are the Android — stop the advance of the Millitoids, survive the Maze of Death, rationalise the Paradox Zone and cross the Flatlands — but beware the lethal hoveroids, bouncers and landmines.				
Blagger	7.95	**3.97**	05510	Alligata
Follow the exploits of Rodger the Dodger, master burglar, through banks, shops and houses — but watch out for alarms and very spooky night-watchmen.				
Son of Blagger	7.95	**3.97**	05520	Alligata
You've polished your skills on Blagger, now put them to the test with his son — Slippery Sid's not after money . . . espionage is his game.				
Cavelon	6.90	**3.45**	05860	Ocean
Enter the castle stronghold at your peril! To rescue Guinevere you must ascend six awesome levels dodging and battling the deadly knights. Will the magic of the sword Excalibur make good prevail?				
Dare Devil Dennis	7.95	**3.97**	06790	Visions
So you think you could be a stuntman . . . the money is good but will you live to enjoy it — test your skills on land, sea and snow.				
Hunchback	6.90	**3.45**	03750	Ocean
Rescue Esmerelda from her castle stronghold. Featuring the Ramparts, Knights, Arrows, Fireballs, The Pit and of course those Bells!				
Loco	7.95	**3.97**	06180	Alligata
Through terrifying hazards and under constant aerial bombardment, this is the nightmare train journey of all time — can you make it before you run out of fuel and become a sitting duck.				
Micro Olympics	5.95	**2.97**	07080	Micro-User
Five track events plus long jump, high jump, pole vault, javelin, discus and hammer — you can take part in them all at the fabulous Micro Olympics.				
Potty Pigeon	7.95	**3.97**	09210	Gremlin
Percy the Potty Pigeon makes suicidal attempts to build his nest by plucking twigs from the path of onrushing traffic — he has one weapon though — his revolting explosive eggs!				
Snooker	8.95	**4.47**	03960	Visions
Accurate table layout, variable shot strength, spin on the ball in any direction, foul feature . . . it's like having your own full size table but guard it or you'll never get a chance to play yourself.				

VIC 20

	Rec. Retail Price	You Choose at Half Price	Item Code	Software House
Bongo	7.95	**3.97**	05210	Anirog
Hilarious game for the whole family — Bongo the Super Mouse sets out to find the stolen diamonds so he can win the hand of the King's daughter in marriage.				
Dungeon Droid	5.00	**2.50**	07630	Novasoft
Your Space Ship is low on Novalite fuel crystals forcing you to land on a planet whose inhabitants worship them. Brave the many dangers in the multi-level tomb before your ship is destroyed.				
Mini Kong	5.95	**2.97**	01780	Anirog
Kong has abducted a young maiden and trapped her in his lair — you have to climb the ladders to rescue her as the angry Kong rains down a stream of barrels to crush you.				
Flight Path 747	7.95	**3.97**	05690	Anirog
As the pilot of this high performance jet liner you must take off from an airfield surrounded by high mountains and having climbed safely over them prepare yourself for a landing in the valleys below.				
Snooker	8.95	**4.47**	02170	Visions
Game description as for Commodore 64				

ELECTRON

	Rec. Retail Price	You Choose at Half Price	Item Code	Software House
Blagger	7.95	**3.97**	05170	Alligata
Game description as for Commodore 64.				
Chuckie Egg	7.90	**3.95**	02190	A&F
Who'd think a farmyard could be so stressful? You must collect the eggs before the nasties get out and eat all your corn. And if the crazy duck gets out of the cage, you're in real trouble!				
737 Flight Simulator	7.95	**3.97**	06420	Dr. Soft
"Start approach well out, starting down from 3000ft at 10nm range, don't forget flap and gear, aim for a 3 degree slope down to the runway, follow up with power to control speed" . . . just one of the manoeuvres in this superb flight simulation — a real test of skill.				
Guardian	7.95	**3.97**	05910	Alligata
Stop the Landers trying to capture Humanoids from your planet surface while tackling flying pods, swarmers, alien bombers, deadly baiters and a carnivorous overblown jellyfish.				
Snooker	8.95	**4.47**	02280	Visions
Game description as for Commodore 64.				

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K

ALL OR NOTHING Spectrum 48K

Spy vs Spy vs Keyboard

Everyone's hitting the graphic adventure bandwagon these days. *A.O.N.* goes for the espionage theme. You are attempting to get hold of the secret files from a heavily guarded emeny camp. Various useful objects are strewn around, and a graphic inventory shows you what you've got. The problem is the guards. Although they seem to possess roughly the same level of intelligence as their dogs, there are plenty of them, and they carry guns. They can however be bribed, gassed, or shot. I wasn't too successful at any of these options and spent most of my time running up and down frantically. 3D Graphics, say Abbex.

Well I'm not so sure I'd call them that. Since all motion is in one plane, it looks pretty two-dimensional to me. You can run behind the sheds though, so perhaps it's a bit 3D. Control is through the cursor keys or joystick, and you get prompted for special options like picking things up. There's also compatibility with the Currah speech unit, but I can't comment on that 'cos ours don't work! — F.F.

From: ABBEX
Format: cassette
Price: £5.95
Graphics: KK
Playability: KKK
Addictiveness: KK

DUCK/BBC

Alas! A Canard

K

British Telecom seem to associate themselves with birds. First there was that revolting yellow parrot, Buzby, and now there's this thing called Firebird, which thinks it makes software. First thoughts were to put a bomb under it and reduce it to bits small enough to forget about, but on reflection it's difficult to give it a total slagging when you consider how cheap — sorry about the pun but it's the only word for it — that it is. This business of low price software is something of a Catch 22. Peanut priced games are very nice, but unless they're good there's not much point in having them. to put it another way, do you cough up a tenner on something that keeps you up to see the sun rising or do you spend five bob and forget about it as soon as you walk out the door?



Which brings us back to BT. *Duck*, another bird from BT. Cheap, but so primitive you could compare it with *King Kong* and see a hairy genius. Basically the game features a man, I think, with a gun and a flock of geese flying overhead. All you've got to do is pick off the geese without letting any fall on your head and avoid the odd, seemingly indestructible, egg that plummets from the heights to land unbroken at your feet. Even less occasionally, a duck comes down to ground level for a chat and somehow knocks you to the ground if not avoided, to the accompaniment of the most revolting noises ever heard coming from a computer.

It's a rather slow game without much in the way of action. Protecting a country field from a plague of ducks doesn't have the same ring to it as saving the Universe from a fate worse than death and it's unlikely that anyone with the savage lust for violence of the seasoned games freak will get any satisfaction from it. — K.A.

From: FIREBIRD
Format: cassette
Price: £2.50
Graphics: K
Playability: K
Addictiveness: K

K

GOLD DIGGER/BBC

Ya Really Want Those Shares?

Yet another cheapo offering from the people who seem to think they're offering a telephone service. Little do they know they've deposited their pride and joy in the hands of the lad whose telephone they cut off last week and have steadfastly refused to reconnect it until they get some money. Could this be the chance to get back in the good books and earn a few free calls to New York? After a quick glance I think not. Nobody could get away with saying good things about this.

I was a little suspicious when it took about thirty seconds to load and when the game got under way all my fears were confirmed. It's so simple and repetitive, it's almost laughable. It's called *Gold Digger* and, as you would expect, it involves digging and gold. This, in effect, means guiding a speck around an orange screen looking for gold nuggets and keeping clear of different coloured specks that chase around after you. It couldn't be more monotonous. After the first screen is swept clear of nuggets you move on to the next screen with, wonder of wonders, an extra speck to avoid and a few more nuggets to collect. As the game goes on it, gets as exciting as a day trip to Croydon. I got so worked up I nearly said 'Gosh!'. Out loud even. but luckily I managed to contain myself. — K.A.



From: FIREBIRD
Format: cassette
Price: £2.50
Graphics: None
Playability: K
Addictiveness: K



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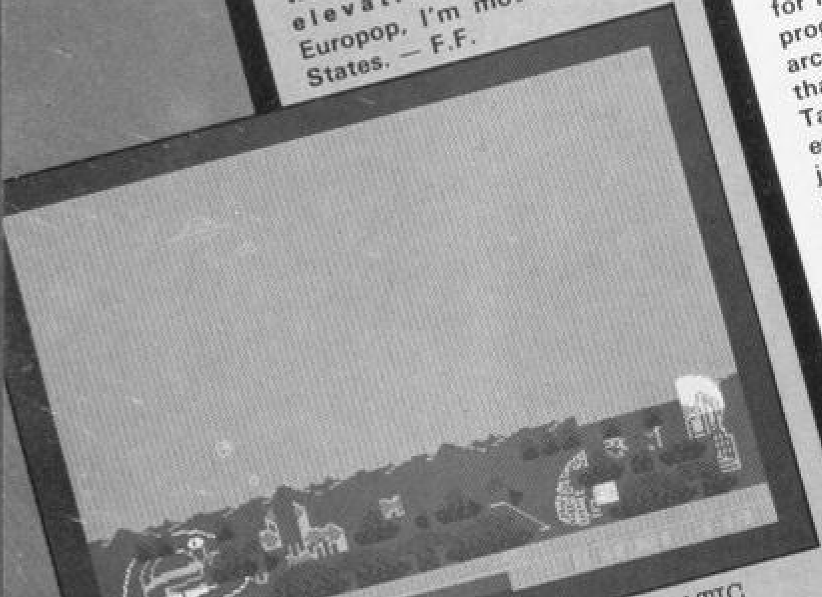
WRECKAGE
Spectrum 48K
K K

SPANISH TUMMY

Wreckage is notable for one thing only, it comes from Spain. If it represents the state of Spectrum software in that long-suffering country, then I think we should all count ourselves lucky.

If Ventamatic are going for U.K. sales, I really think they should get round to translating the game instructions. No matter, the game takes about one and a half seconds to figure out without them. It's a pretty humdrum Invaders shoot-'em-up with the only extra twist that you must set the range of your lasers correctly. Various saucers that look like jellyfish ply away at your ground installations. As far as I can make out there is a Kempston joystick option, but the keyboard is entirely adequate for the simple action required.

If this means that Eurosoftware is going to reach the elevation standard of Europop, I'm moving to the States. — F.F.



From: VENTAMATIC
Format: cassette
Price: £5.95
Graphics: K
Playability: K
Addictiveness: K

K K K

HI BOUNCER
BBC

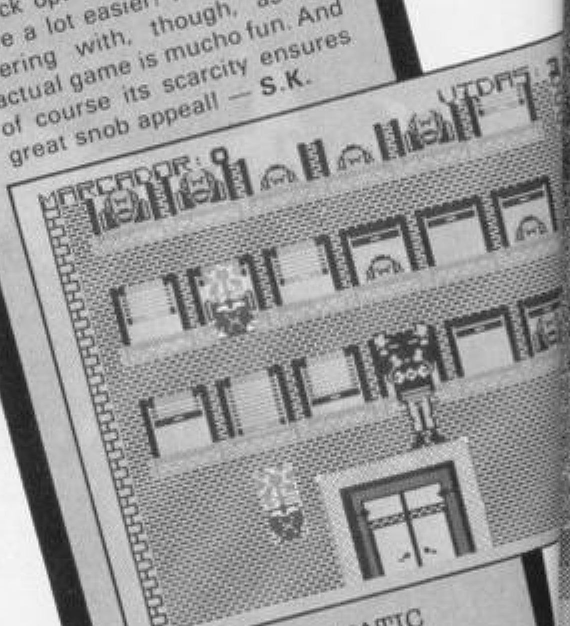
Don't be put off by the low-cred Mr Men scenario kidz, this cute 'n' raunchy prog deserves to be ranked alongside *Frak!* in the Beeb's ace game table. Not only is the play hot and original (give or take a swipe), but the sound and vision's excellent and there's a plethora of action-levels! I for one was entranced well beyond my bedtime! The star of the show is the rotund Mr Bounce, a cheerful character who spends his time helping out the other Mr Men. Mr Tall for example is cursed with unyielding joints and so is unable to pick up his scarf and gloves when he crops them in the street. Mr Bounce happily returns them to Lofty's flacid grasp by simply bouncing on top of them.

Similarly, he's able to help Mr Lazy with his house-building, assist Mr Bump with his scrumping and prevent a summer's day melt-down for the hapless Mr Snow. While initially undemanding, these tasks escalate in difficulty as Mr Bounce gets into his stride. Indeed I had my work cut out for me on side one's practice program. There's a single level arcade version on the flip but that proved too difficult. Mr Tall's scarf wiped me out every time. Although there's a joystick option available I went for the fast and easy accuracy of the keyboard. Using the keys also gives you the option of slowing down the action — although this makes for a duller game. Like *Manic Miner* (a tenuous comparison) there's plenty of scope for strategic playing and addiction is assured. In fact it's a must for Mr Men of all ages. — S.K.

Maker: MIRRORSOFT
Other versions: CBM64
Format: cassette, disc
Price: £6.95, £9.95
Graphics: KK
Playability: KKK
Addictiveness: KKK

ESCALADOR LOCO **K K**
SPECTRUM 48K

Schizophrenic Spanish import that wears *Donkey Kong* duds (misleading), calls itself *Escalador Loco* yet loads as *Crazy Climber*. The latter is perhaps the most descriptive handle as the game involves climbing the outside of a skyscraper. A dull enough task were it not for the falling plantpots and obstrperous apes you meet en route. The graphics are neat, with the large cartoony climber being effectively animated, and the curse factor alarmingly high. Just when you think you've survived the first floor out pops a bearded terror who brains you with his last petunia. The monkey's even worse (he lurks further up the building). I've simply no idea how you're meant to pass his hairy, flailing arms. (Starting up is equally challenging.) As with other Ventamatic imports the instructions are in Spanish and consequently meaningless (unless you're a Spaniard). It was only after much experimentation that I sussed out that it was the cursor keys 5 and 8 which moved the climber left and right (what do you mean it's obvious?), while keys 6 and 7 each moved an arm; U takes the character up the building but only after a firm grip has been established on the next ledge. A stick option would have made life a lot easier! Worth perservering with, though, as the actual game is mucho fun. And of course its scarcity ensures great snob appeal! — S.K.



From: VENTAMATIC
Format: cassette
Price: £5.95
Graphics: KK
Playability: KK
Addictiveness: KKK

LASER LORD
Spectrum

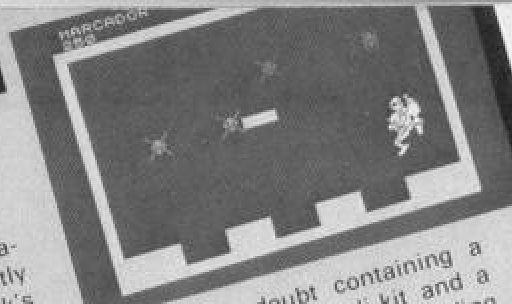
Are you suffering from micro nostalgia? Hankering for those halcyon days of games when any fourth-former could knock out and sell a *Space Invaders* variant in a weekend? When expectations were low and dividends high! Century City have decided to provide software just for you. *Laser Lord* makes no concessions whatsoever to originality or visual appeal, and has the sheer audacity to limit the player to only one space invader at a time. Don't want to get them too involved, eh? There is the occasional meteor, to be fair, but I can't say that I let it worry me.

Movement, left, right, and fire, is sluggish, but I didn't really care much — one game was enough. Breathtakingly nasty. — F.F.

From: CENTURY CITY
Format: cassette
Price: £1.99
Graphics: Is that what they are?
Playability: Not good for people without fingers
Addictiveness: Non-existent

TUNELES MARCIANOS SPECTRUM 48K

KK



A curious dose of Spanish arcadia that's on the whole slightly more rewarding than a week's vacation in Majorca. Although clearly a distant cousin of *Jetpac*, *Tuneles* maintains it's credibility by framing the action in a format not entirely dissimilar to Fantasy's *Ziggy* hit, *The Pyramid*. Screens of uglies alternate with a display of interlocking cells which reveal your current game position. The ultimate aim of the game is to travel to the final cell located in the upper left hand corner of the screen. Exactly what this display represents though is unclear, as the *instrucciones* are in an unrepentant Spanish tongue (luckily the gameplay is easy enough to suss out). Initally I thought it might depict a massive starship but that seems a little too obvious. More likely it's network of ghastly coastal resorts with the final room no doubt containing a much needed medi-kit and a return ticket home! Lending support to this theory are the denizens of the cells who are both fiendish and Spanish in appearance. There's a swarm of bearded waiters, plates of paella, fly sprays and hungry crabs (which I'm told are rife in Benidorm). The assault is unrelenting. Thankfully there's a full range of familiar joystick options to help you get home. — S.K.

From: VENTAMATIC
Format: cassette
Price: £5.95
Graphics: KK
Playability: KKK
Addictiveness: KK



FROG FACE Spectrum 48K

K

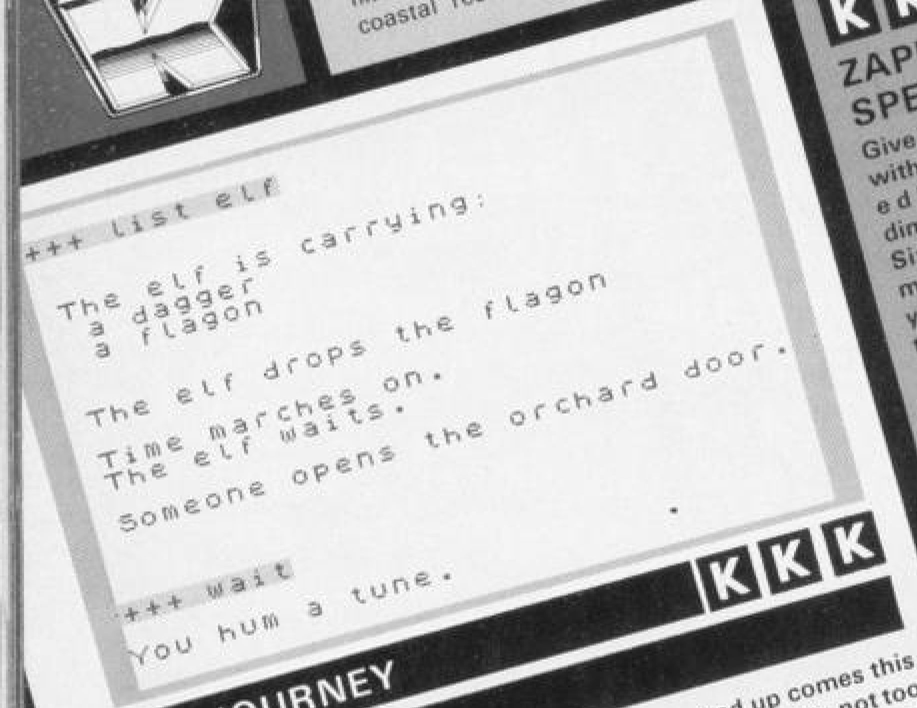
The Mirror Crack'd

Ever get the feeling you should never have got out of bed? I start playing this adventure, and before I even go anywhere, I find out I've been cursed with the face of a frog. Come on you lot, I've always been told that I resemble a rather handsome ferret. The point of this game is far from cosmic — you have to find the evil sorcerer in order to restore your good looks. Vanity of vanities!

A pleasant enough pastime though, the graphics are adequate but not mind-blowing, the only annoyance is you have to enter INVENTORY in full. The nasties are mostly on a classical theme, gorgons, basilisks and so forth, so a knowledge of myth may be helpful. Positive Image deserve credit for checking the player's gender at the start of the game. Truly these are people of elevated conciousness.

All right, as long as you don't mind being seen in public looking like an amphibian. — F.F.

From: POSITIVE IMAGE SOFTWARE
Format: cassette
Price: £5.95
Graphics: K
Playability: KK
Addictiveness: KK



THE JOURNEY Spectrum 48K

KKK

Well, here I am minding my own business, see, and up comes this elf — funny little bloke — clever, though. He's got this mate, not too bright, but looks a bit handy, know what I mean? Before you can say Gollum, off we go on a quest or something. I wouldn't mind if there was the odd tavern in sight, but no, mountains, poisonous snakes, trolls and all that. Wish I'd stayed in Essex.

The Journey is an adventure with graphics, and from the loading time, it's a big one. It's very much in the *Hobbit* tradition, but owes more to Tolkien's sequel *Lord of the Rings*. In the company of various other characters, an elf, a wizard and a very surly and suspicious warrior, you have to seek out the White Ship of the elves, and what happens next is anyone's guess.

The program's language handling ability is not as good as *The Hobbit*, no adverbs and you can't chain commands, but the characters are a lot more talkative — the elf chatters away like mad with rumours of giants and home-spun philosophy. Winning the other characters' friendship is one of the biggest problems and I just couldn't hit it off with that warrior. I didn't even get the chance to buy the guy a pint. But I kept on trying and I'll probably have another go later, so I must be hooked. — F.F.

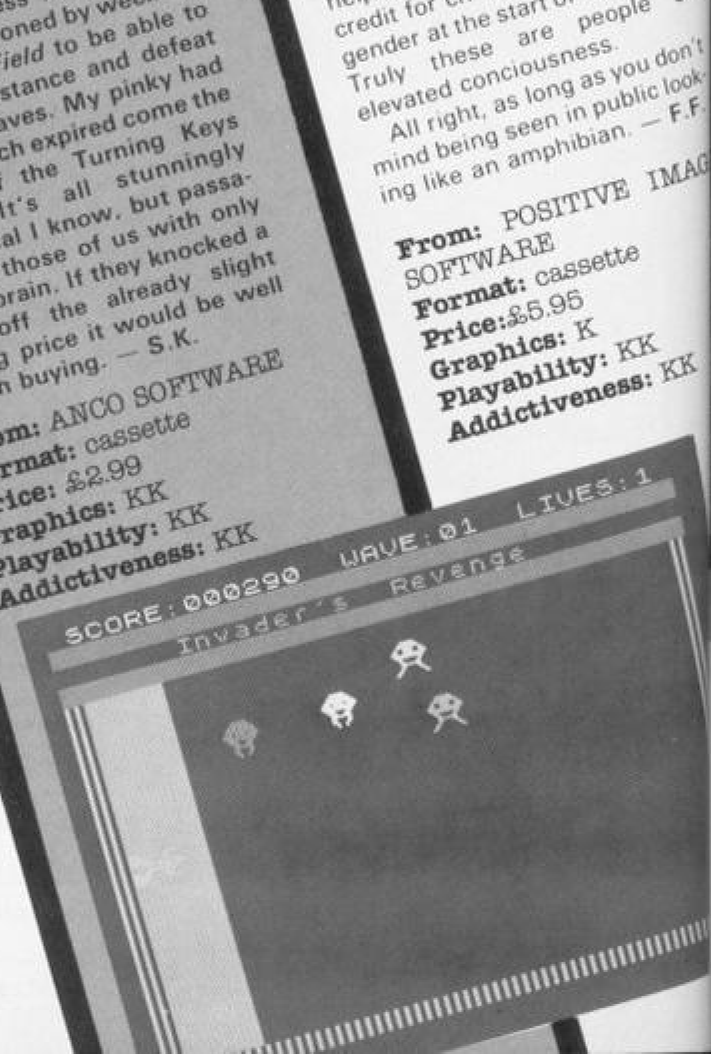
From: TEMPTATION SOFTWARE
Format: cassette
Price: £7.95
Graphics: KK
Playability: KKK
Addictiveness: KKK

ZAPPER SPECTRUM 48K

KK

Give your micro a lobotomy with this endearing but decidedly mindless one-dimensional shoot 'em up. Sixty waves of aliens are marching relentlessly toward your laser base. You must total them before they total you. There's no original frills of any kind here, as you might imagine, just rapid fire gonzo action. Boredom, though, is unlikely due to both the ceaseless challenge and some nicely drawn aliens, including a swarm of faulty television sets and attacking pocket calculators. My guess is that you'll need digits honed by weeks of *Track and Field* to be able to stay the distance and defeat all sixty waves. My pinky had pretty much expired come the attack of the Turning Keys (eek!). It's all stunningly unoriginal I know, but passable for those of us with only half a brain. If they knocked a quid off the already slight asking price it would be well worth buying. — S.K.

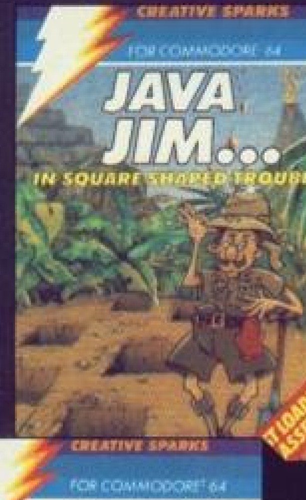
From: ANCO SOFTWARE
Format: cassette
Price: £2.99
Graphics: KK
Playability: KK
Addictiveness: KK



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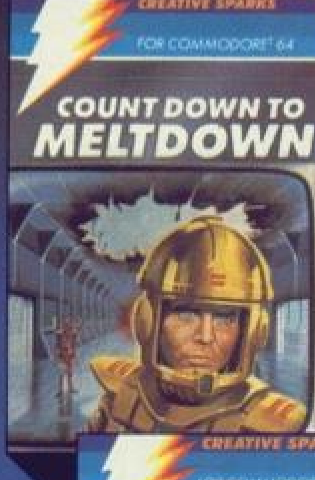
For those who demand excellence



JAVA JIM

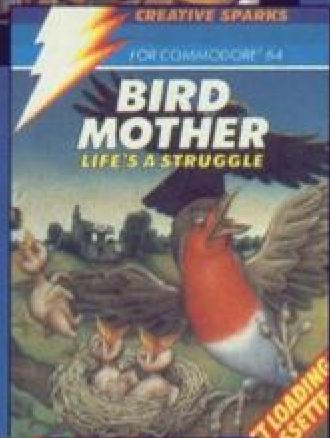
Guide Java Jim around the screen digging neat square holes as he searches for ancient relics. You will have to avoid the lumps of sizzling lava being continually showered down on Jim from the still active volcano in this highly original fun game.

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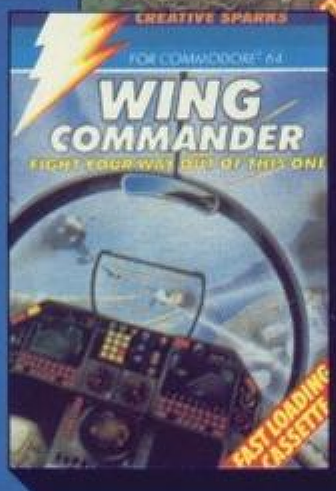
COUNTDOWN TO MELTDOWN

An amazing graphic action adventure game which puts you in charge of a team of androids trying to reach the core of a nuclear reactor before it explodes.
This game has over 2000 rooms to be negotiated and every single one of them is in 3D!!
Probably the most exciting game yet developed for the C-64.
Fast loading cassette.



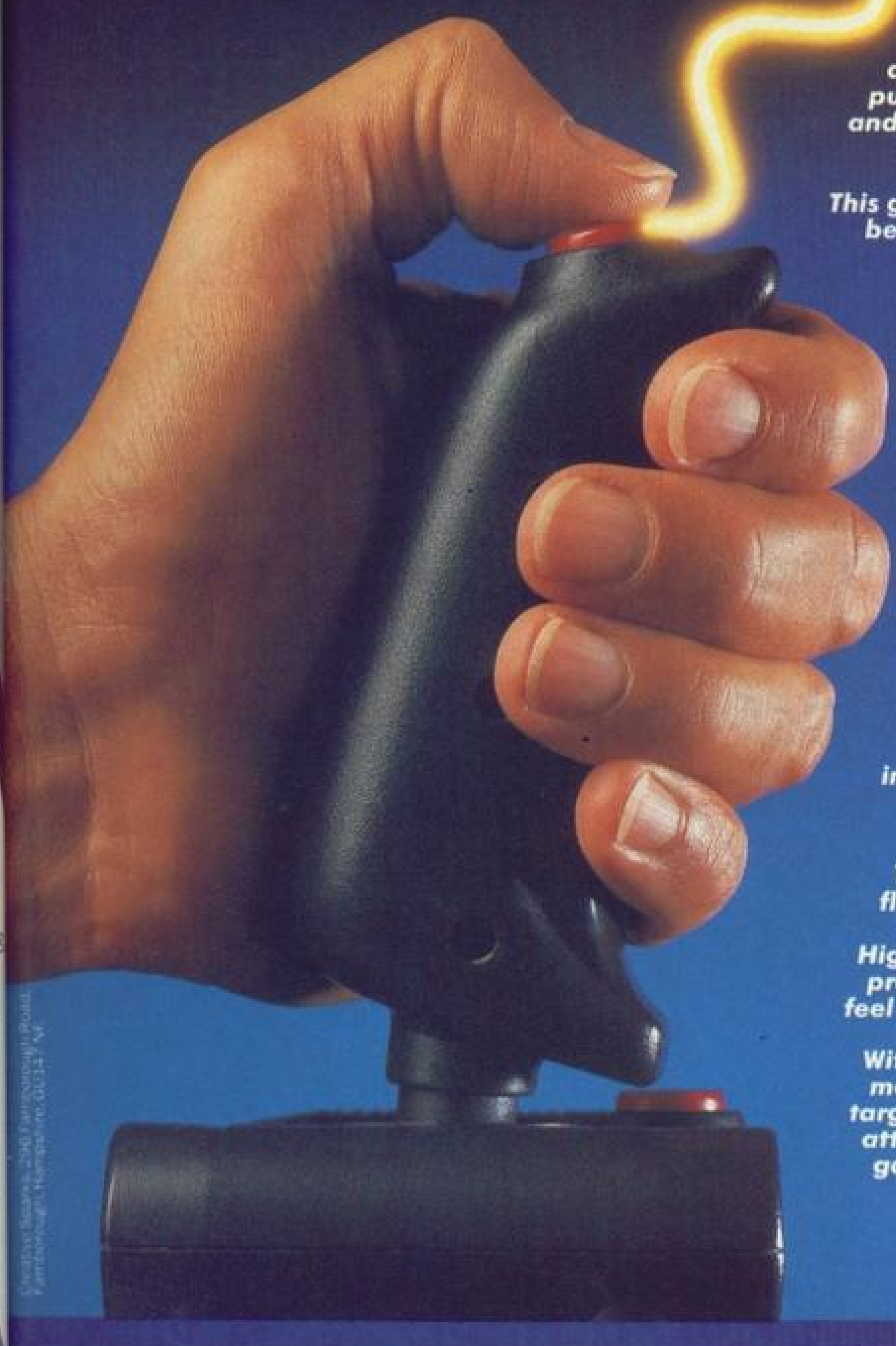
BIRD MOTHER

This is a delightfully original game which uses nature as the setting for a highly compelling and challenging game. Guide the Bird Mother as she builds her nest and raises her young, finally protecting them from a predator hawk.
Fast loading cassette.
The stunning graphics and music in Bird Mother are not to be missed.



WING COMMANDER

This is a highly sophisticated flight combat simulator which puts you in the pilots seat. Highly advanced machine code programming has ensured you feel every stomach lurching dive and roll.
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Fast loading cassette.



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SPACE STATION ALPHA

K

BBC

Nice box. 'GRAPHICAL SPACE BATTLE' it screams at you. And it's right, it's graphical and it's a space battle — just.

As commander of earth's last orbitting space station — yet again — your mission (yawn) is to destroy as many of the invading Cylon fleet as possible (ho-hum) before their lethal lithium missiles (*ZZZZZZZ . . .*) reach earth.

What you get is a pretty screen display which does no more than act as a stationary backdrop, a set of bog-standard crosshair sights which you move about the screen and the Cylon fleet. Each ship from this fleet makes its entrance screen right, squirts a missile at earth, screen left, and makes its way to screen centre. You have to reduce it to a molten glob before the missile hits earth. Fleets come in waves of fifty, after which comes another fleet, followed by another, followed by . . . — **K.A.**

From: ICON
Format: cassette
Price: £7.95
Graphics: K
Playability: K
Addictiveness: K

BUT WHERE IS HIS BALACLAVA HELMET?



SAS COMMANDER
BBC

K

I hunted high, I hunted low. It had to be there somewhere, after all there was one every week, and there it was. Little devil, nestled tightly between '*Attack of the Killer Sugar Bowl*' and '*Joey Wibbles Wabbles the Wubbles*', this week's Space Invaders clone.

This time it goes under the awe-inspired title of *SAS Commander* and it makes tea at the vicarage look like the Falls Road. Your mission, as they say, is to go to various trouble spots around the world, which are all identical, save the hostages and kill terrorists, who are all identical twins.

And so, with a hoarse cry of 'Who Dares Whines' let battle — or lack of it — commence. One side of a street appears our stalwart representative of Her Majesty's finest, elegantly knock-kneed, slides onto the screen like Wild Bill Hiccup on his way to a chimps tea party. Terrorists appear in windows across the street and you have to slide this character from side to side shooting them, with the proviso that they are not holding a hostage in front of them. After about thirty seconds I got bored, went out to get insanely drunk and came back to give it another go. No good, it didn't make it look any better. — **K.A.**

Graphics: K
Playability: K
Addictiveness: Zippo

From: COMSOFT
Format: cassette
Price: £4.95

SINBAD THE SAILOR
BBC Model B

K

Maker: VIRGIN GAMES
Format: cassette
Price: £7.95
Graphics: K
Playability: KK
Addictiveness: K



Look at this, a new-style pack from Virgin to go with their new-style games. In this one, new-style means touching the bad guys instead of avoiding them. The game involves *Sinbad the Sailor*, you can tell by the name on the packet, and his magic carpet. In the first instance Sinbad has no control over his carpet as such, it just kind of floats around the screen doing exactly as it pleases. No way for a magic carpet to behave in my opinion, but we're stuck with it.

There's a rope hanging off the side of it and steam-rollered gerbils, inventively titled 'Sinbad's Enemies', float about. Sinbad has to jump onto the rope and run up and down it, touching them — but only once — to convert them to friends. If he touches them more than once they knock him off his carpet. 'Eat dirt, Sinbad'. When he's converted them all he gets to sit on his carpet and have asteroids thrown at him. If he manages to avoid them all he goes back and converts squashed gerbils. And so it continues.

It's not a bad game, sort of middle of the road, which probably accounts for the beasties having that squashed look. — **K.A.**

KK

SON OF BLAGGER
BBC

So ya thought Blagger was a mean sonofabitch didjya? Well just take a look at his boy Sid. Not so much greedy for money as shifty, his speciality is espionage, which is how he finds himself in the National Security HQ with a journey through one of the biggest, most dangerous buildings in the land to look forward to. Which land? Nobody says, so is our hero the patriotic type, digging around in the bowels of the Kremlin looking for a secret Borstch recipe for Maggie? Or is he grubbing around for Z80s in the corridors of Whitehall to send to out pink pals pals over the wall Who knows, ours is not to reason why, ours is but to plonk the keys to the best of our ability and get our man out of this hairy situation.

The graphics are a little primitive and the sound about as subtle as picking your nose with a pneumatic drill, but we can probably live with that when there's so much exciting territory to explore.

Son of Blagger is one of the scrolling maze variety where you've got to look for keys to get into the next area. The action starts with Sid standing on a wall with only one direcrion in which to go, so he goes hence, slips onto his backside and down a slope. Good start. This is a pretty good indication of the way the game goes, largely by trial and error. You can spend days playing the game, trying to avoid that small spikey thing in the corner, only to accidently fall over it and discover it to be quite benign.

How deep in the maze of collapsing floors, ladders, etc., he can go is something I don't know yet, but I've every intention of finding out — in the interests of science, you understand. All I can say is it's pretty big. Should keep you going for some time. — **K.A.**



From: ALLIGATA
Format: cassette
Price: £7.95
Graphics: KK
Playability: KKK
Addictiveness: KKK


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Meet the Challenge

WHEN IMAGINE crashed earlier this year, they went down fighting . . . for their famous Megagames. The only one of these to achieve near-completion was/is Bandersnatch. Our Man With The Snap-brim Fedora previews the game — which may yet see the light of day — and unravels other great software mysteries of our time. You read it here first . . .

by TONY TAKOUSHI

BANDERS…

THE GAME THAT LAUNCHED A…

WELCOME to what I promise will be the hottest review pages in the games industry. Each month I will be reviewing all the newest and tastiest software around — as often as I can, *before* it's around!

This month's reviews cover two Spectrum and two Commodore 64 games. For the Spectrum there's the famed *Bandersnatch* (originally from Imagine) and *Moon Patrol* from Atarisoft with *Basketball* and something oh-so-similar to *Jetpac* on the 64 (more of this anon).

There has been tremendous interest in the megagames from Imagine, only one of which has had any appreciable work done on it — this being *Bandersnatch* for the Spectrum. After all the hype I think you deserve to know what the fuss was all about . . .

The concept of a megagame was produced by getting all the programmers at Imagine to list what they thought a megagame should have. The final report detailed the use of much artificial intelligence, large well-defined graphics and many stages of play. The game was designed to be 128K long and as the Spectrum could not handle this much code a hardware add-on was designed. This was a 64K ROM designed to slot in the back of the Spectrum. A company in Taiwan called PCI was approached to produce 100,000 ROMs. PCI costed these at one million pounds, (a sum Imagine did not have), so began the search for funds.

All the while John Gibson and Ian Weatherburn were writing *Bandersnatch*. As Imagine was wound up the games were shelved and now both programmers have left Imagine. The game itself revolves around a character called Vol who lives on a planet in another galaxy. There are no points scored in the game, the aim being to pass through life (do you get points every time you cross the road?). There are many rooms to pass through, with lifts helping you on your way. In fact, it is *Miner 2049'er (Manic Miner* to you) — derived except that Vol is very large and beautifully animated. The various stages include levels like the Mine Shaft where a large worm, about a third of the screen in length, wriggles along with each segment being fully animated.

An example of the hoped-for artificial intelligence occurs when you enter a room. Characters are standing around talking to each other in speech bubbles. You can see other features for yourself in its accompanying screen shots . . .

Late news: at going to press time we heard that Sinclair Research has acquired *Bandersnatch* as a QL game, to be released next year after wholesale re-writing. This should mean that the QL's 128K of RAM will make the ROM dongle unnecessary . . . watch this space.

TOUCH DAY BALL

Andrew Spencer caused quite a stir when he wrote *International Soccer* for the 64 — now he's all set to repeat his success with *Basketball*.

This is a superb translation for the





SNATCH

THOUSAND WRITS

Commodore 64, featuring all the facets of real basketball and still managing to be very playable and addictive in its home micro format. The game starts with a choice of team colours and difficulty level of play. The players troop out on to the court and a tip off gets play under way.

There are 200 seconds to each half, with the scoreboard showing scores of home and away teams, and a 30 second time limit allowed for each team to attack its opponent's basket.

The players are well animated. They can also leap into the air to block or shoot the ball. If the ball goes out of bounds a throw-in is awarded and when five team fouls are reached free shots are given against the offending team's basket.

A nice touch is that when a basket is scored the crowd go into a frenzy and applaud loudly . . . overall my verdict is: Excellent.

MYSTERY JETPAC

The other CBM 64 game to fall into my sweaty palms this month *looks* for all the world to be *Jetpac* — the bad news being that Tim Stamper (MD of Ultimate) assures me that his company has not, repeat not, written *Jetpac* for the 64.

All the same I've been playing the game and it really does look like a direct 64 conversion from the Spectrum format . . . all of which set me thinking. Not too long ago there was an emulator program being written by a top programmer (no names, no pack drill), that would supposedly convert Spectrum games to the Commodore 64. I have a sneaky feeling this game Jetpac rip-off could well have been produced under such a converter. If anyone out there knows if this emulator exists (or not) then do let me know . . . small fee for hot info . . .

The original *Jetpac* from Ultimate has you controlling an astronaut who has to assemble a rocket and fill it with fuel (while picking up jewels, gold and diamonds). Trying to stop you are various alien forms which differ as you fly from planet to planet refuelling your ship.

This pirate version plays somewhat slower than the Spectrum original and there are a couple of other differences — these being the use of gauges at the bottom of the screen to show the fuel level of the rocket and a fuel gauge for the Jetpac worn by the astronaut.

All the attack waves are graphically similar (how I love those goggle eyed fluff-balls on level two!) and if an alien touches you one of your five lives is lost.

The mystery remains, however.

MOONING AROUND

WITH the take-over of Atari by Jack Tramiel various projects were immediately shelved. The conversion of top Atari games to the Spectrum format is, however, being continued and they will be officially released as soon as the copyright holders give their seal of approval.

Moon Patrol will shortly be released on the Spectrum. It is a close copy of the arcade version. Under your control is a moon buggy that must cross 26 sectors as it battles its way to Moon sector Z. There are a variety of alien forms trying to stop you and you can fire straight up at the aliens and directly ahead to destroy the bombs they are dropping on you.

As you get closer to sector Z you must face gun turrets on the lunar surface firing missiles at you whilst negotiating the ever increasing craters.

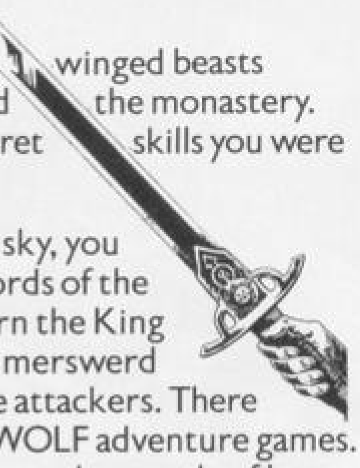
My initial reaction to this game was . . . disappointment — the scrolling landscape moved rather slowly. But as I got into the game this became less of a bother. The game is challenging, skilful and addictive. It will be selling for £10.00 from all major software distributors.

Next month? Just recently there was the first 1000-screen game from Softek called *Quo Vadis*. Well, the next issue of Big K will feature an EXCLUSIVE review of the biggest arcade adventure EVER WRITTEN on a home micro. It has over 8000 locations (to give you an idea of the playing size that makes it around 9 feet high by 3000 feet long), and is called *CAD-CAM Warrior*.



BECOME LONE WOLF...

... sole survivor of a devastating attack on the monastery of Kai.



A great cloud of black winged beasts has swept down and engulfed the monastery. All the Kai Lords, whose secret skills you were learning, have been killed.

Raising your face to the sky, you swear revenge on the Darklords of the West. But first, you must warn the King of the invasion, retrieve Sommerswerd and then use it to beat off the attackers. There are now two exciting LONE WOLF adventure games. Each one requires you to assume the mantle of Lone Wolf, make all his decisions for him, and actually fight his combats move by move. You really are Lone Wolf.

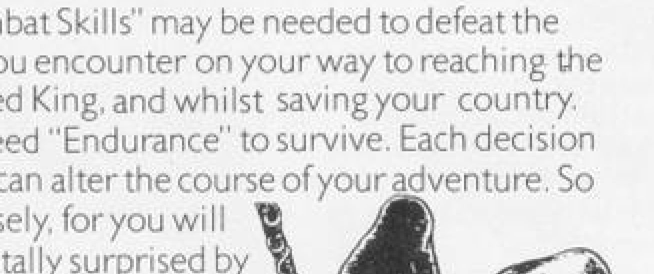
You are going on a journey, a quest. You create your own adventures, choose your own tactics and make your own decisions.

You swear

THE LESSONS OF COMBAT AND ENDURANCE

When you were training with the Kai Lords, you acquired many secret skills and disciplines. Now, you may need to use them. You may need to improve some, and disregard others.

"Combat Skills" may be needed to defeat the enemies you encounter on your way to reaching the beleaguered King, and whilst saving your country. You will need "Endurance" to survive. Each decision you make can alter the course of your adventure. So choose wisely, for you will often be totally surprised by the effect your choice may have on your survival.



THE SURVIVAL DISCIPLINES

Over the centuries, the Kai Lords had mastered the skills of the warrior. As you proceed through your adventure you may find that you are becoming more and more proficient. If you, too, have mastered these skills they may save your life!



You can learn how to hide undetected amongst rocks and trees of the countryside. In a city, you can look and sound like a native which may help you to find shelter.

Learn how to communicate with animals and move objects by sheer concentration alone.

You can develop a "Sixth Sense" that warns you of imminent danger. It may also reveal the true nature of a stranger.

"Tracking" may help you choose the right path and decipher prints or tracks of creatures in the wild.



The discipline of "Healing" can restore your "Endurance" after being wounded in combat.

THE "COMBAT" SKILLS

When you entered the Kai monastery you were taught to fight with daggers, spears, warhammers, axes and swords.

The evil Darklords, though, have the ability to attack using "Mindforce". Lone Wolf can learn the discipline of "Mindshield" and also "Mindblast", the old Kai Lord's ability to fight using the forces of the mind alone. You, Lone Wolf, control the combat, you decide whether to fight or not, and you alone can manipulate the moves.

THE EQUIPMENT TO SURVIVE

You set out with just an axe, a leather pouch of gold crowns and a map of Sommerlund which you

THE LONE WOLF ADVENTURES

The creators of LONE WOLF are Joe Dever and Gary Chalk. In 1982, Joe won the Advanced "Dungeons and Dragons" Championship in America.



Gary has had 17 years experience of war games, and is the originator of the highly successful "Cry Havoc" and "Starship Captain".

Together they have created two unique adventures combining the skills of mental and physical dexterity. And there are more to come. The presentation is visually exciting, and involves you totally in every action and reaction.



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revenge

have discovered amongst the smoking ruins of the monastery.



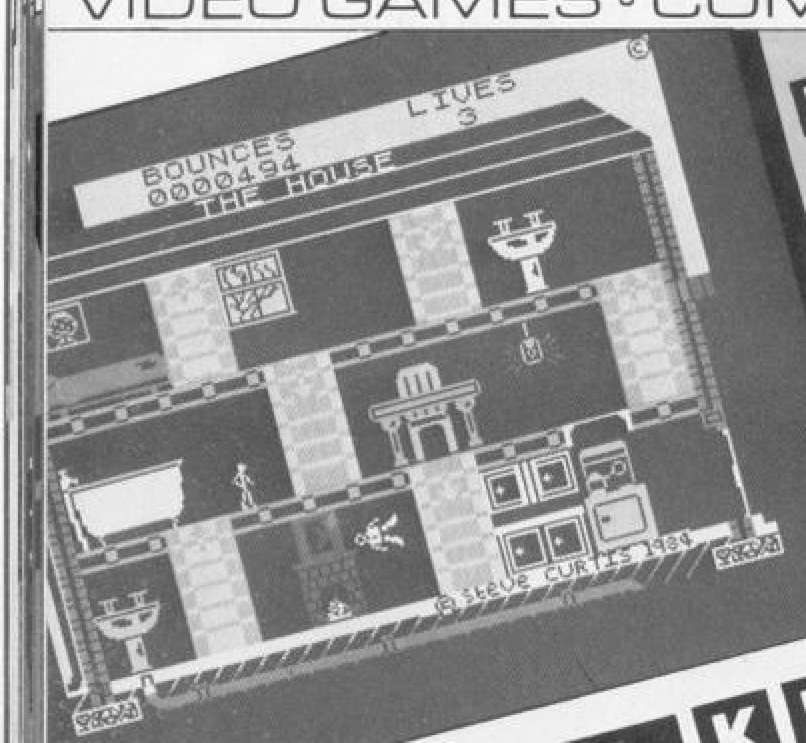
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KK

TILER
Spectrum 48K

What ho! Has somebody come up with a game where you have to edit a computer mag? This should be pretty gory stuff. But no, all you have to do is tile the roof of a house. Easy? Well, actually no, because the house belongs to Rob Rubbers who can't stop bouncing around and if he bounces into you, you get squashed. There are three high-res screens, the house, the garage and the garden. The tiles are on the garage roof which is reached, for choice, from the garden. Different levels are connected by one-way stairs and you have to collect keys to pass from the house to the garage and the garage to the garden. All in all, filling your hod becomes a pretty fraught enterprise.

There are three criticisms I'd make; neither of the figures, the tiler or Rob Rubbers, is as well defined as the background and the tiler especially can get lost against it; Rob doesn't bounce, as far as I can see, according to the physics that I was taught, so it's impossible to predict his trajectory; and when you move from one screen to the next, you have no way of knowing where Rob will be so, there's a good chance that you'll walk straight into him, unless you're very quick with the Panic button which will take you to an adjacent screen. Even so, an enjoyable game and interesting to see one with at least one foot in the real world. — **J.C.**

From: INTERCEPTOR
Format: cassette
Price: £5.50
Graphics: KK
Playability: K
Addictiveness: KK

KK

BLACK HAWK
Spectrum

Your task is to fly "the deadliest plane yet created" on a series of eight missions over a totally militarized group of islands. Missiles, helicopters and tanks are trying to get you, while you try to knock them out and plaster various ground targets, too. There are two modes; the attack screen, a nicely scrolling map showing targets in range of your guided missiles, and a defence screen showing incoming hostiles. To fire missiles you move the sight (cursor) and lock it on target. In defence it's over to cannon fire. There are two levels, Rookie and Honcho, and a variety of bonus weapons when you complete a mission within certain parameters (mind you, if it's the "deadliest etc. etc.", how come you can make it even deadlier? Oh well, no point in expecting logic from a computer game). I've read the scoring system over and over and I just plain don't understand it. Maybe I'm thick, but I can't make head or tail of these Strategic Loss Factors and On Target % Figures. Still, never mind, just shoot up everything in sight and hope for the best. Seems to work OK, because I get my bonuses, but I'm sure there are all kinds of clever wrinkles I'm missing out on. The detail is a bit fussy and cluttered, but until I get *River Raid* for Spectrum, this'll do fine. — **J.C.**

From: CREATIVE SPARKS
Format: cassette
Price: £7.95
Graphics: KK
Playability: KK
Addictiveness: KK

KK

FOREST AT WORLD'S END
Spectrum 48K

Like it says on the box, this text-plus-key-points graphics game is for "seasoned Spectrum adventurers". You start off empty handed, as usual, at the edge of the forest and have to rescue the Princess from the evil wizard. Along the way you encounter the inevitable baddies (Elves? What would Tolkein say?) and some friends, particularly an old man who turns up once in a while with advice. Just as well, because the Help command is as useless as it always is in adventure games. Nasty sense of humour some people have. There are five main obstacles, starting with a chasm, and various more or less useful objects scattered about. I'd say this was pretty standard stuff if I wasn't stopped cold about half way through. Interceptor aren't gamesmiths of Level 9's standard but, unlike most, they hit the difficult balance between playing fair and not giving anything away. — J.C.

From: INTERCEPTOR
Format: cassette
Price: £5.50
Graphics: KK
Playability: KK
Addictiveness: KK

K

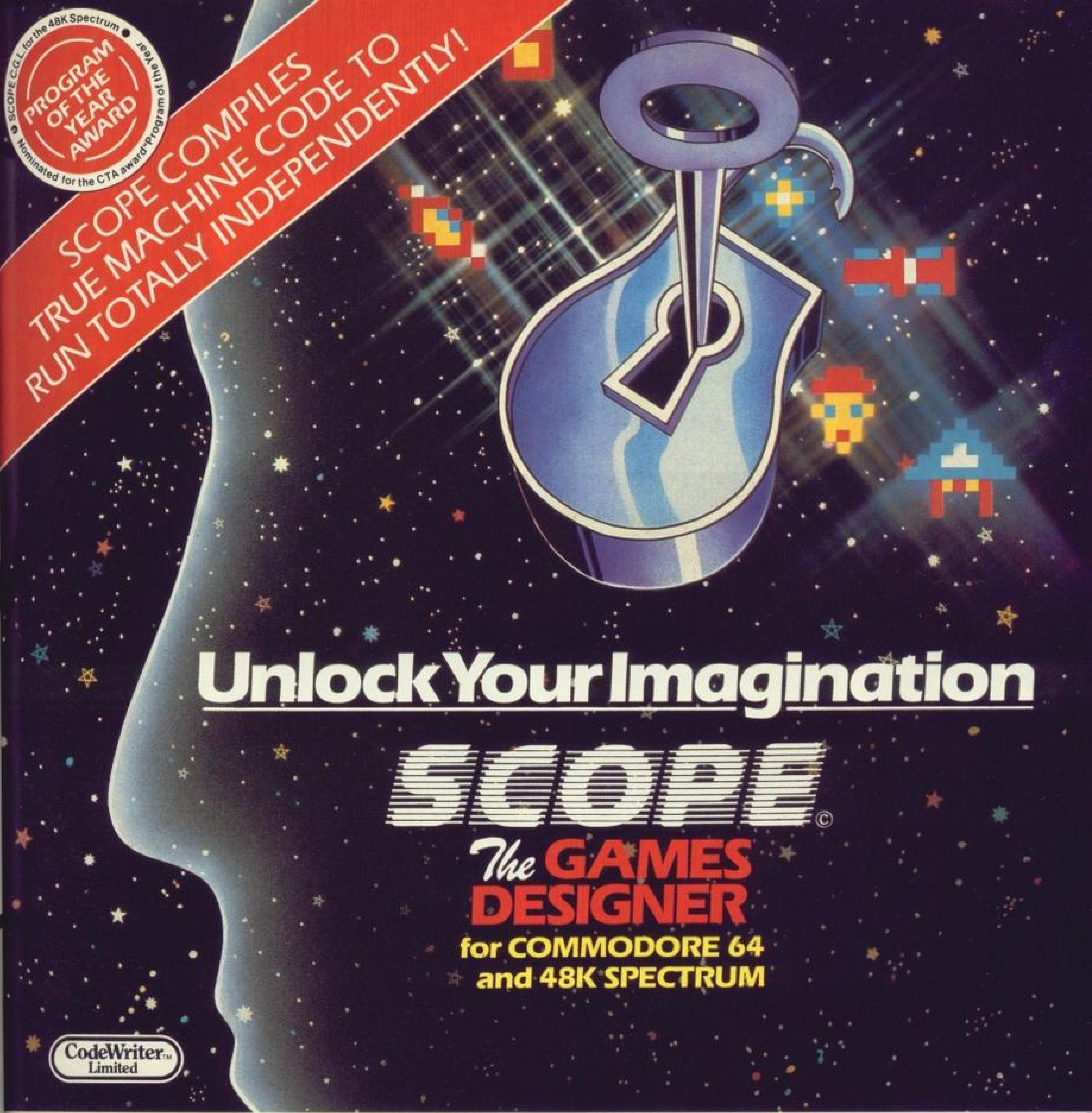
DRAGONFIRE
Spectrum 48K

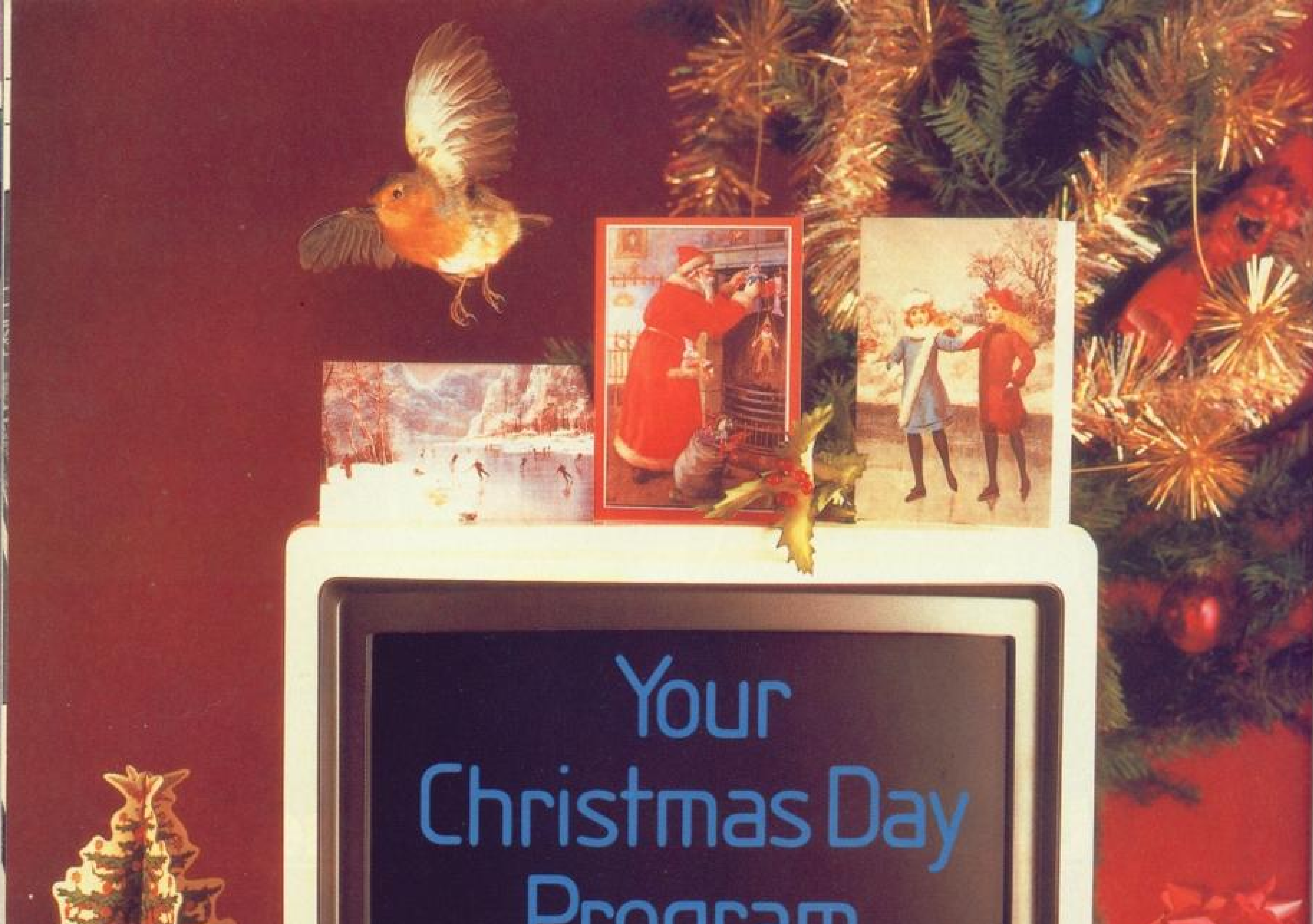
Prince William has to retrieve the royal treasury from inside the castle which is guarded by a dragon. On the first screen you have to get him across the drawbridge, leaping, ducking or running back to avoid the fireballs being spat out from the gateway. On the second screen you have to scoop up the goodies while the dragon . . . you got it. Then it's back to the beginning and start over, slightly harder, though there are four skill levels if you wat to raise the stakes right away. Billy's animation, especially his jumping, is terrible and the game just doesn't offer enough of anything. If you want to test your reflexes in dodging and weaving, fine. But it takes a lot more than two screens to get me going. — **J.C.**

From: IMAGIC (CHEETAH)
Format: cassette
Price: £7.95
Graphics: K
Playability: K
Addictiveness: K






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Your
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Guide



9.00 Firebug

A fast moving arcade-type game in which you are a fireman, trying to rescue some oil drums and take them to the safety of a water tank. Your opponent is the firebug who runs around lighting fires which move slowly towards the drums and fire extinguishers, destroying them if contact is made.

10.00 Maze

A gripping graphics game where you enter a top secret installation with the aim of stealing secrets from a rival company. The security system, however, has many levels each consisting of a maze of corridors patrolled by armed robot guards. Complete with full colour 3-D graphics, sound effects and a high score table.

12.00 Elite

A superb 3-dimensional graphics game that's light years ahead of any other. You are a space trader who roams the universe, making your living from buying and selling cargo in your Cobra space craft. On your travels, you will encounter aggressors who are eager to put an end to your dealings. Be warned, only the fittest will survive.

1.00 Crazy Tracer

A crazy adventure in which you guide a paint roller round the edge of a maze of rectangles, while avoiding the monsters which are trying to stop you by crushing the roller. Beware – as the game progresses, so the number of monsters chasing you will increase.

3.00 Go

'Go' is a board game for two players which originated in China 3000 years ago and is now more popular than Chess in the Far East. It requires strategic insight, intuition and a strong, calculating mind. If you wish, you can also challenge the computer at differing degrees of difficulty. A velly good game indeed.

4.00 Watch Your Weight

At last, a weight-loss program designed especially for you. With it, your computer becomes an expert wholly conversant with and sympathetic to your needs, and will help you choose an appropriate and individual weight-loss plan. The program also includes a calorie counter and a series of apposite menu suggestions to help stimulate your imagination when you just can't think what to eat.

5.00 The Complete Cocktail Maker

With everything from a Black Russian to a Betsy Ross, this program contains data sufficient to concoct a staggering 320 different cocktails.

6.00 Paul Daniels' Magic Show

Stun and amaze your friends with your astounding feats of magic. This program contains ten tricks to be performed by or with your BBC Micro/Electron. Hurry though – it's bound to disappear fast.

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PUNCHY K
Amstrad

They Made the Pack-Art Deadline

Bobby has to rescue Judy who's been locked up by Punch 16 screens away. Bobby creaks (new shoes?) across the stage avoiding flying rotten tomatoes and custard pies coming from left and right, jumps over gaps, leaps onto flying carpets and, at the end of each screen, rocks the baby. Once in a while a flying sausage (listen, don't tell me!) turns up and lets him short-cut to the next screen when in trouble. Helmets are given for completing a screen, within a time limit. The game gets off to a pretty poor start — who told Mr Micro that dark blue works against a black background? — and the graphics generally are pretty feeble, apart from the stage frame which is quite pretty. The real problem with the game is that Bobby is slow, painfully slow. There's an appalling and infuriating lag between actions getting anywhere. Of course, this could be deliberate, but who needs it? Also who needs incorrect instructions — 'H' doesn't hold the game, 'G' doesn't start it (Copy does) and Control 'D' doesn't give you the demo mode. You ask me, this was a bit of a rush job. — **J.C.**

From: MR MICRO (AMSOFT)
Format: cassette
Price: £8.90
Graphics: K
Playability: K
Addictiveness: K

LASERWARP
Amstrad
K K

He Laughed While He Slew

Usually I don't have much time for waves of alien shoot 'em ups, but this one has some very clever features and a nice sense of humour. You have to punch your way through nine screens of nasties (whirling dervishes, interstellar pogos — and find out the rest for yourself) to reach the would-be galaxy conqueror The Master. Destroy him and he comes back faster and furiouser. Mechanically it's quite tricky because firing is delayed and non-continuous. So you have to lead your target, figuring out where it might be in a split second's time.

Some are fairly predictable, others a good deal less so, but either way your job is complicated by having the screen full of other lethal, but unhittable, horrors that simply absorb your fire, and your standard rain of missiles. Between screens you get sardonic messages from The Master and when you run out of lives you get a mocking that varies in rudeness depending on the level you blow out on. Rather usefully, you can call up any level but the last for a dry run. Fun, but I doubt if it's anything like tough enough for hard-core Starfighter types. — **J.C.**

From: MIKRO GEN (AMSOFT)
Format: cassette
Price: £8.90
Graphics: KK
Playability: KK
Addictiveness: KK



OH MUMMY K K
Amstrad

Amon Tele

Your archeological 'team' (ie 5 lives) is exploring a series of five pyramids. Each level has 20 boxes and at least one guardian mummy and your Egyptologist must go round each of them to find out what's inside; 6 will be empty, 10 will have treasures, one a scroll, one a key, one a secure Guardian Mummy and one a Royal Mummy. You have to uncover at least the key and the Royal Mummy to get out, while avoiding the Guardians. Though once you've found the scroll you can kill one of the Guardians, which is good practice as they follow you to the next level. Clean up the pyramid and you get either a bonus or an extra man and move on to the next, slightly harder one. There are 5 speed



levels and 5 Guardian 'cleverness' levels which makes the game very tunable. Basically it's a search pattern game with the Guardians making it impossible to lay down a perfect pattern. The graphics aren't all that special, but the animation is well done, especially the Guardians emerging from their tombs! An enjoyable if rather samey bit of nonsense. — **J.C.**

From: GEM (AMSOFT)
Format: cassette
Price: £8.90
Graphics: KK
Playability: KK
Addictiveness: KK½

ATOM SMASHER K
Amstrad

You control a 'super laser' inside a runaway nuclear reactor and must shoot protons to delay melt-down. At the same time you have to avoid running into, or shooting, moving electrons. You can also blast or ram through the meltdown, but too much firing will burn out your laser and too much movement will use up your fuel (stopping tops you up). The cursor is about as small as you can get, so it's a game of absolute precision in orientation and movement, with no leeway for error at all. It's tough enough with a Wico joystick, so you'd have to be pretty hot to get anywhere with an Amstrad stick or the keyboard option.

Delaying the inevitable is, as their critics will tell you, the ultimate point of all arcade style games, because sooner or later the computer is going to beat you. But this one is a bit too obviously a losing rearguard action for comfort. It might be a challenge for the real hot-shots, though. — **J.C.**

From: ROMIK (AMSOFT)
Format: cassette
Price: £8.90
Graphics: KK
Playability: K
Addictiveness: K



GEMS OF STRADUS Amstrad K

Heads Down, Chaps

A graphics/text game in which you stagger through a series of rooms getting keys, matches, blazers, bottles, stilts and who knows what else, evading snakes, nasties (sic), spectres and pits, trying to find the treasure trove of AM. The keys are needed to open doors, both being colour coded, but don't ask me what all the other stuff's good for because instead of getting lives, you're simply sent back empty-handed to the beginning — which makes it real difficult to solve problems. Making a map is essential, as usual. It's in 3D but the detail is very crude and everything's in garish primary colours, making it pretty unlovable. One for the patient sloggers. — **J.C.**

From: KUMA (AMSOFT)
Format: cassette
Price: £8.90
Graphics: K
Playability: K
Addictiveness: K





ROLAND IN TIME
Amstrad

KKK

The Jet Set has already hit the Amstrad and it's here with a vengeance! If I say that *Roland In Time* bears a marked resemblance to a certain game featuring Surbiton's most famous miner, I think you'll know what I mean.

The evil villain (Boo! Hiss!) Maestro has stolen the crystals that used to power the spatial part of Roland's Anti-Matter-Space-Time-Run-A-rounD, (A.M.S.T.R.A.D.). The result is that Roland's Runaround may now ony move through time. Your job, surprise surprise, is to collect the crystals which have been scattered throughout Earth's past, present and future.

The game consists of fifty-three screens, some of which would even give Matthew Smith the odd nightmare. There are ten time zones, ranging from prehistoric to post-atomic, with each zone having up to ten locations. Having ten time zones means that however club-handed you are, you get to see at least ten different screens. The many varied and challenging sheets coupled with the smooth arcade quality graphics makes this game top of the league. Go out and buy one now! — **G.L.**

From: AMSOFT
Format: cassette
Price: £8.50
Graphics: KKK
Playability: KKK
Addictiveness: KKK

KKK

GHOULS
Amstrad

Software producers of all that is naff for Amstrad had better buck their ideas up if they want to compete with Micro Power's new offering. Do you hear me, Amsoft? The idea may not be new (it originally graced the Beeb's memory) and the graphics may not zap your socks off but — and this is a big but — it's one of the most addictive and compulsive games I have played for a long time.

It all begins with you, looking a bit like Pac Man with legs, trying to recapture your power gems from the pilandering poltergeist at Creepy Mansion. This involves getting to the pot of treasure via the now standard platforms seen in so much of today's software. Hazards include poison smeared spikes, moving platforms and in the later sheets, bouncing spider. Although there's only four sheets each one is tricky enough to keep you glued to your micro and monitor for months.

All in all, it's a must for anyone's software collection especially since there's an awful lot of naffware about for Amstrad's little baby. It's a hit! — **G.L.**

From: MICRO POWER
Format: cassette
Price: £7.95
Graphics: KK
Playability: KKK
Addictiveness: KKK

K

ADMIRAL GRAF SPEE
CBM 64

'Ja, Ja, mein fuhrer. As you say, ze var is nearly offer, ant ve haf not sunk der single Englischer schip. Ja, but Gott in Himmel, der schweinen vill not stay still! Ja, ja, I know der Graf Spee is der fastest battleship in der Kriegsmarine, but der Tommys must be cheating!'

I cannot believe that commerce raiding was anything like this. You sort of swan around the South Atlantic looking for merchantmen, which occasionally appear as blips on a large scale map. The close range screen allows you to steer in the eight compass directions, specify speed, or fire guns or torpedoes if there's a target in sight. The result is exquisitely unplayable. It's almost impossible to get close enough to a target to do any damage, and even if you do, the sight of a little cartoon ship going down hardly gets the adrenalin going. The game gives out a Scuttle op tion. I'd take it, quick as yo can. — **F.F.**

From: TEMPTATION SOFTWARE
Format: cassette
Price: £6.95
Graphics: K
Playability: You mu kidding
Addictiveness: K

ROLAND IN THE CAVES
Amstrad

KK

Roland's here again! And this time he takes the form of a metagalactic flea. Pretty clever, this Roland chap, to look so different in so many games. Actually *Roland in the Caves* is really a conversion of Indescomp's *Boogaboo the Flea*, and a very nice implementation it is as well.

Careless Roland has fallen into a strange cave on an even stranger planet and using his amazing jumping abilities he must reach the surface to relative safety and a nice cup of tea. Trying to turn you into pot noodle is the local pterodactyl who seems much swifter on the Amstrad version than his relatives on the Spectrum and Commodore 64. Other hazards include flesh eating plants (Gasp!) and an out-of-tune rendition of *La Cucaracha* (Mega Gasp!).

Quite a nice game, even though further examination revealed it to be mostly written in BASIC. Still if being a flea is where it's at with you, then *Roland in the Caves* could be just what you need. — **G.L.**

From: AMSOFT
Format: cassette
Price: £8.50
Graphics: KKK
Playability: K
Addictiveness: KK



DUNE RIDER
BBC

K

Isn't life wonderful? Just as you're leaning out of the window bellowing the merits of one supplier over another to the key-plonker across the street, along comes Sod; his law tucked smugly under his arm, and reduces your street credibility to the level of Val Doonican. Not that it's a bad game; it's just that from Micro Power, with a reliable pedigree behind them, I was expecting something better. And besides, it's not the most original of ideas.

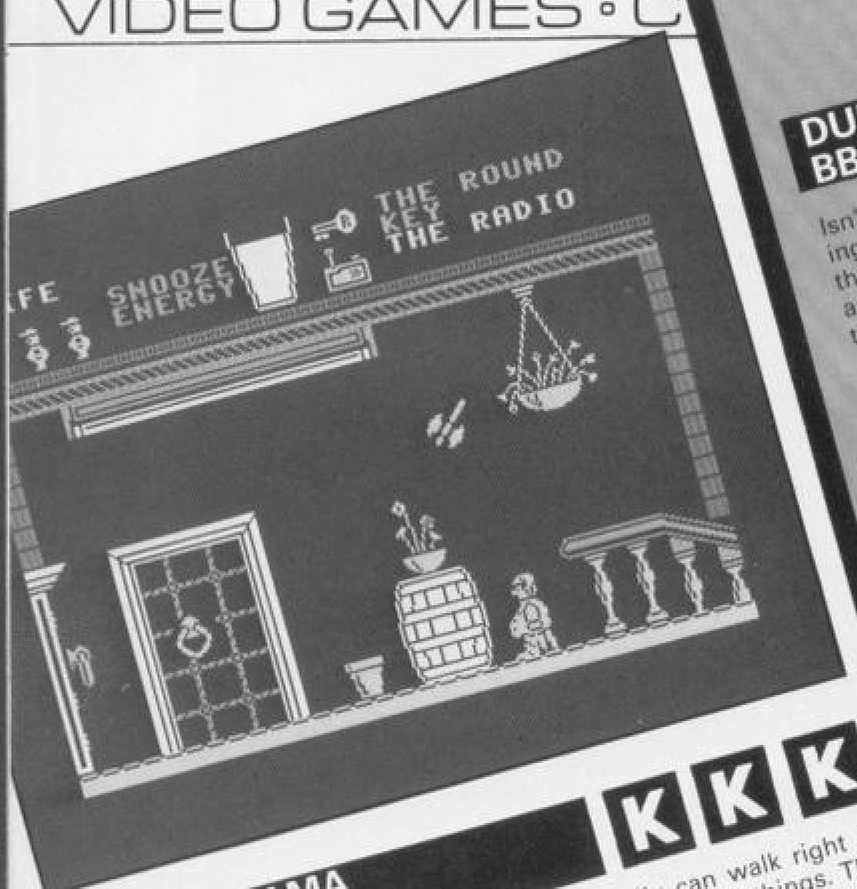
The fun'n'games start on the planet Zenon where the inhabitants have chosen you as a messenger to carry documents, vital to the planet's defence, to a destination across the dunes and somewhere right of screen.

To this end you dive head first into your dune rider and head for the hills, or dunes in this case. These bear a passing resemblance to the dunes of some English beaches, the obstacles in this case being radioactive rocks and lava pits rather than broken bottles and oil slicks. The object of the exercise is pretty much the same as well, getting from A to B without being ripped to shreds by the obstacles.

The landscape scrolls from right to left and you manoeuvre the dune rider over the landscape, firing forwards if anything gets in your way and upwards as the enemy scouts, bombers etc., drop their various bits and pieces on you. When you get to lava pits or rocks there's only one way to get your vehicle past them . . . jump, which is a strange thing for such a beast to do, and you can refuel your craft from canisters dropped by destroyed craft above you.

Fairly amusing but after a few miles of the same sort of landscape it gets a bit tedious. — **K.A.**

From: MICRO POWER
Format: cassette
Price: £7.95
Graphics: K
Playability: KK
Addictiveness: K



KKK

PYJAMARAMA
Spectrum 48K

There are occasional bright moments in a games reviewer's life, very occasional, not always too bright, and definitely momentary. *Pyjamarama* is a positive ray of sunshine. It may however have detrimental effects on your Central Nervous system. I was hauled away forcibly from the screen by a kindly colleague, mumbling 'No, no, don't let the oven-ready chickens get me'.

It's set in the nightmares of one Wally, a little man, but with big problems. He's trying to wake up for work, but to do this he needs to find his alarm clock and wind it up. Unfortunately this must be done in dream reality, and everything's come alive or got bigger. Hands come out of the floor, library books acquire aggressive instincts, and nothing is quite what it seems.

The result is a large and very entertaining graphic adventure. Wally can walk right or left, or jump over things. This is under keyboard or joystick control. There are plenty of objects strewn about the rooms to be picked up, which is done by just walking over them. It isn't always clear what they're for however, and while you're figuring that out, Wally's 'snooze energy' is running down. It's also depleted by contact with the sinister hands, roast chickens et al, so the simple everyday act of winding up a clock becomes a full-scale quest.

The graphics are beautifully realised, so each new location is a joy to discover. But can anyone out there figure out a use for the beach-ball? — **F.F.**

From: MIKRO-GEN
Format: cassette
Price: £6.95
Graphics: KKK
Playability: KKK
Addictiveness: KKK

KK

BATTLEZONE
Spectrum 48K

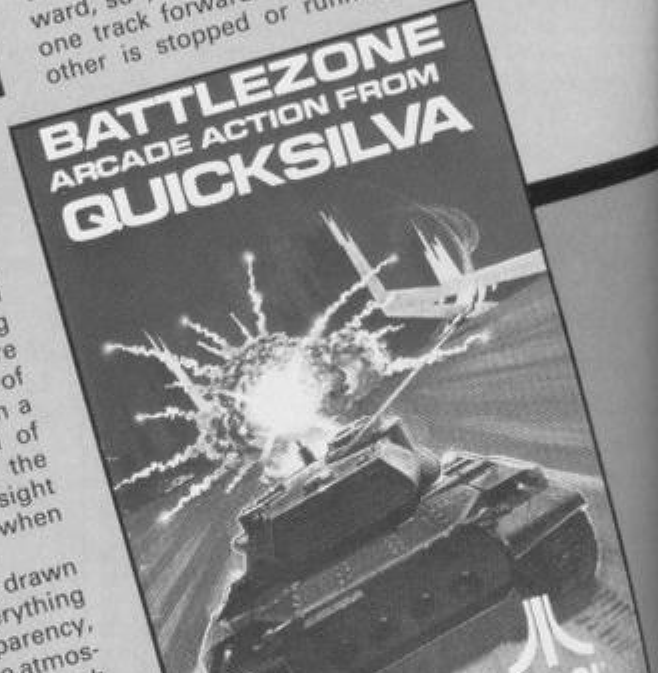
One of the arcade greats this, and in an Atari-approved version. *Battlezone* is probably the earliest attempt at a game with a true 3-D feel, and in the arcade it succeded rather well.

We find ourselves in charge of a tank trundling around a barren desert. In the far distance are a range of mountains which sadly can never be reached. Enigmatic solids: cubes; pyramids, and oblong boxes are strewn around. This unprepossessing ground is contested by enemy tanks, flying saucers, missiles, and other machines. It being essential to zap them before they make scrap metal out of you, you are equipped with a radar scope to warn you of enemies behind and to the side, and a forward gun sight which changes shape when the enemy is bracketed.

Enemy machines are drawn in wire graphics, so everything has a ghostly transparency, which adds to the eerie atmosphere. This version is much jerkier than the arcade model, but it's a tricky bit of programming. The big let down is the total lack of documentation. It didn't take me long to figure out how to turn the tank, but forward and backward motion took a little longer. In fact the controls are rather like those on a real tank. Q and P make the left and right tracks run forward and Z and space backward, so you turn by running one track forwards while the other is stopped or running backwards. The zero key f[...] the gun.

Very playable once [...] know how, but really, Qu[...] va, we're not all telepath[...] know. — **F.F.**

From: QUICKSILVA SOFTWARE
Format: cassette
Price: 6.95
Graphics: KK
Playability: KK
Addictiveness:





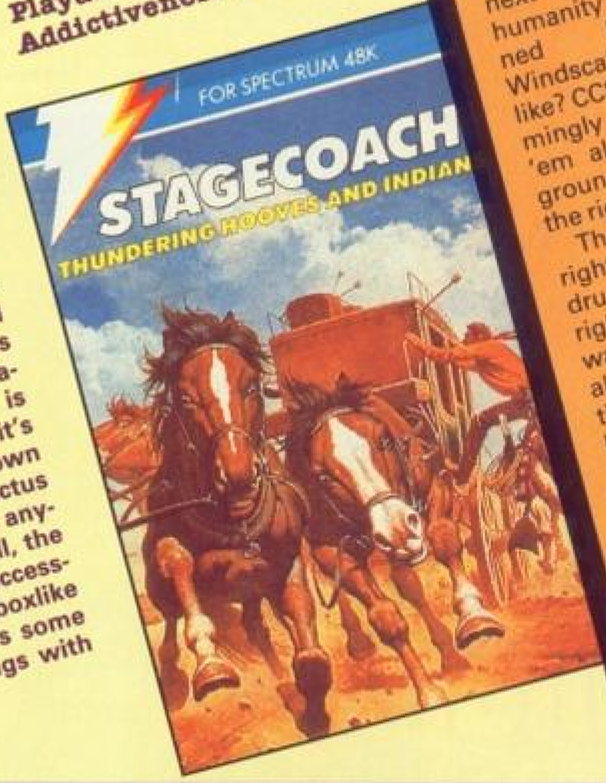
KK

STAGECOACH
Spectrum

You're riding across the desert when you see a runaway stagecoach. You leap onto it, which is about the trickiest manouevre in the game, and take the controls. Your destination is San Pedro, but first you have to pick up passengers, negotiate (with the help of a Map mode and signposting) the avalanche prone Sierra Peligrosa, scooping up boxes of gold and ammo en route, and then outrun and outshoot the dreaded Camache Indians.

The first and third sections are littered with cacti and other obstacles. The game is in 3D, but the apparent relationship between objects is very hard to judge and it's pretty annoying to be thrown from your horse by a cactus that doesn't look as if it's anywhere near you. All in all, the animation isn't very successful, the stagecoach, a boxlike affair, particularly does some very odd-looking things with perspective when it's changing direction. Still it's entertaining enough and an original concept. — J.C.

From: CREATIVE SPARKS
Format: cassette
Price: £6.95
Graphics: K
Playability: KK
Addictiveness: KK



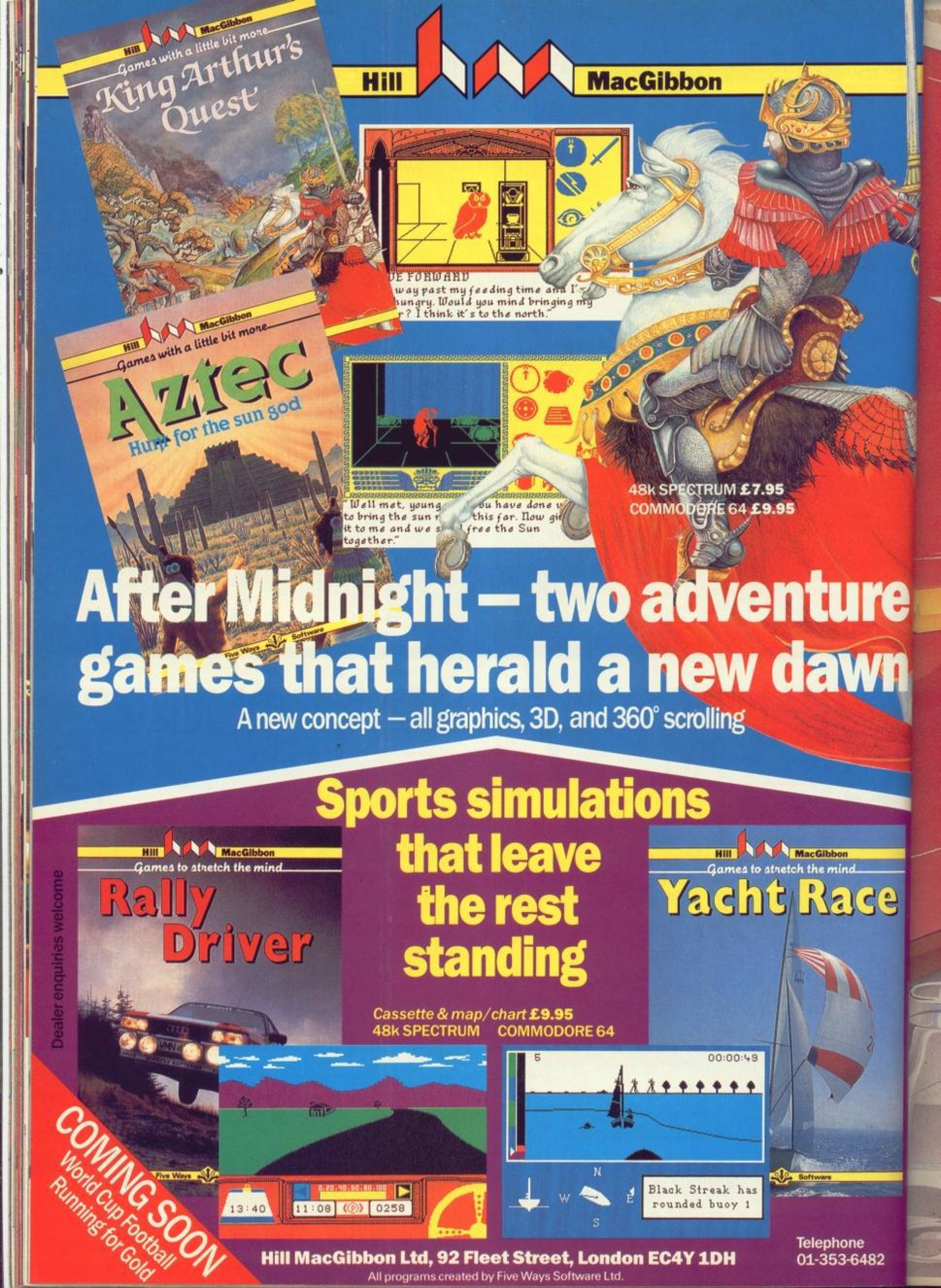
KK

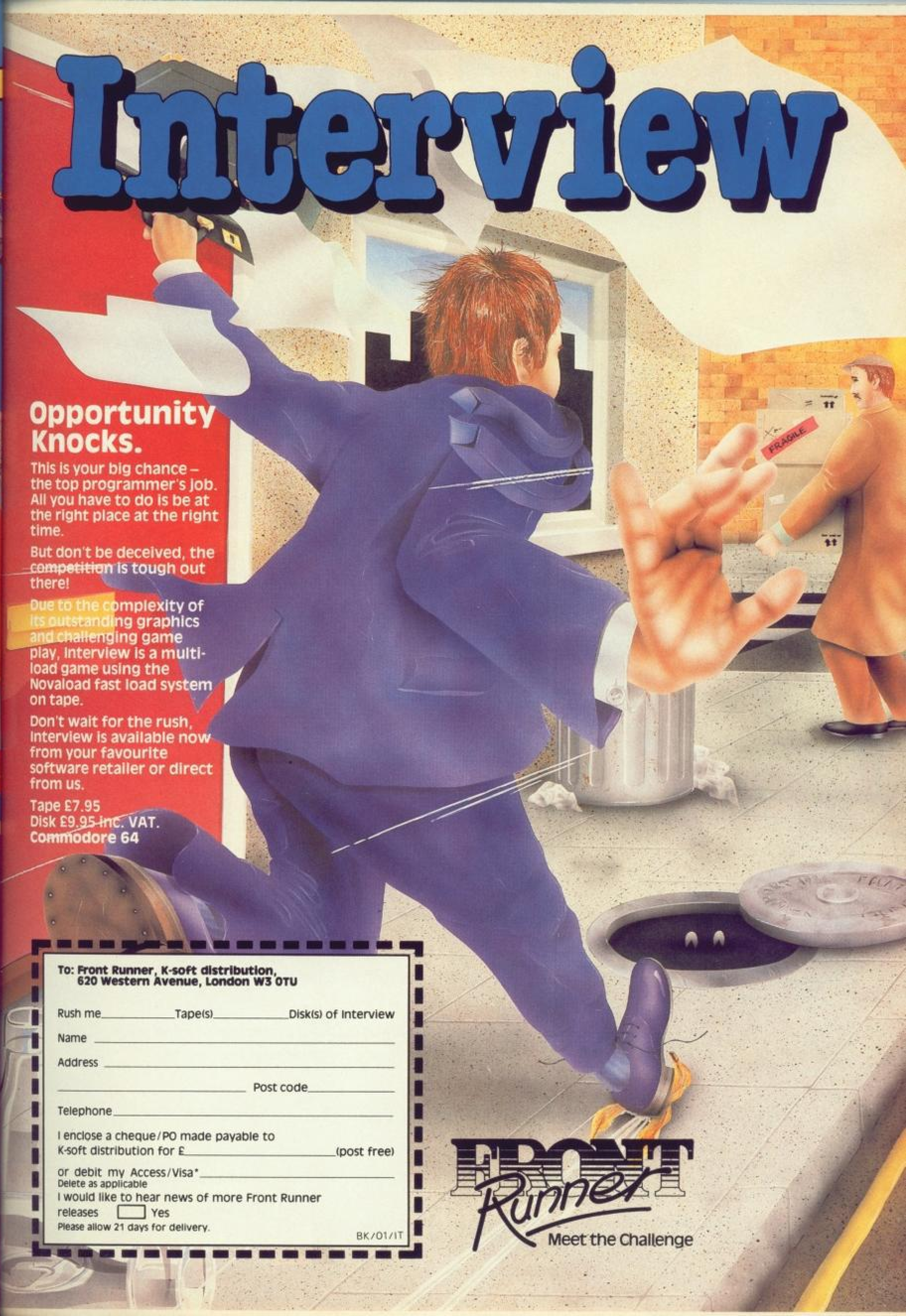
NUKE LEAR
Spectrum 48K

One of today's pressing problems here, namely what do the next fifty generations of humanity do with all the canned Roentgens from Windscale/Sellafield and the like? CCS come up with a charmingly lo-tech solution: drop 'em all down a hole in the ground, and head-butt them in the right direction.

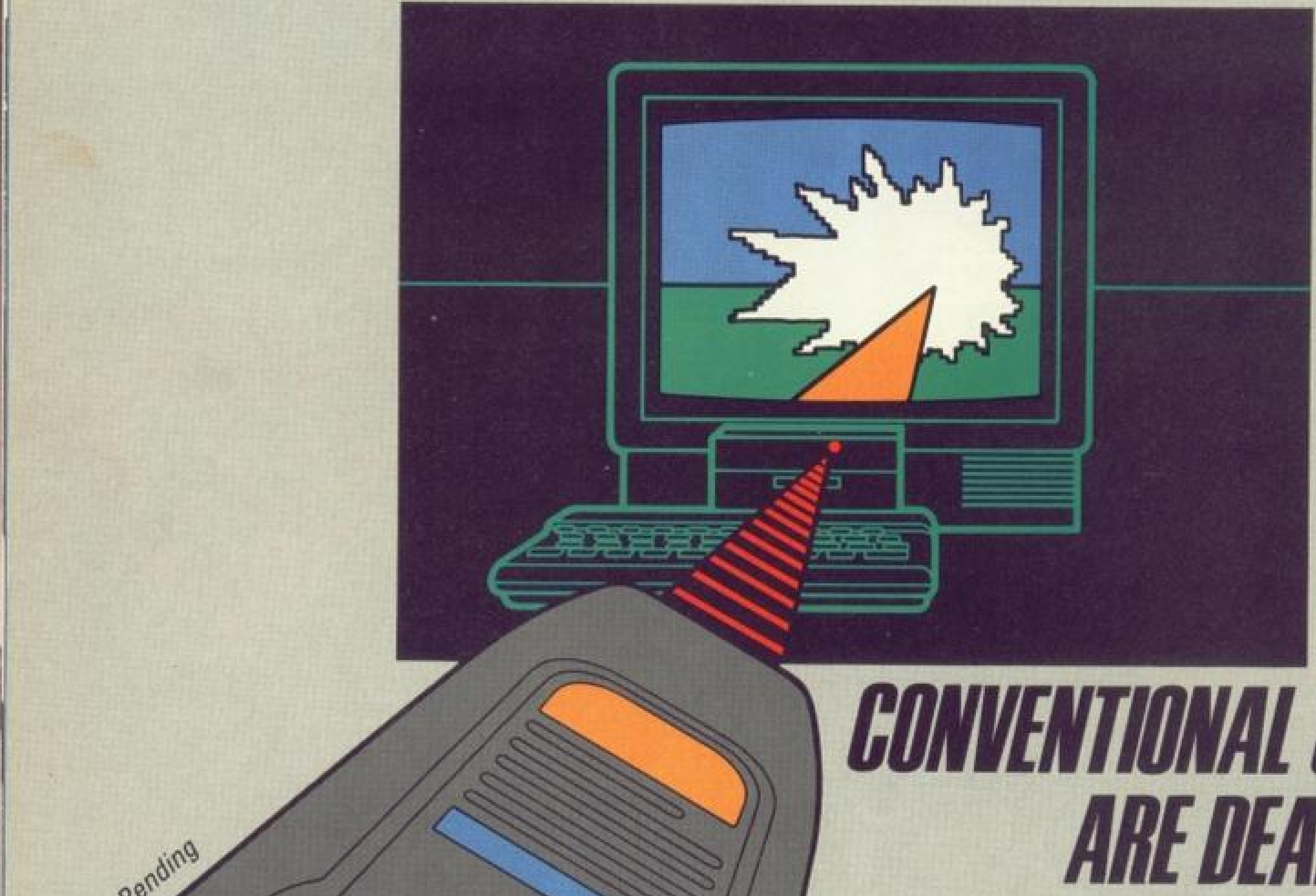
The main movement is left-right to get under the falling drums to redirect them into the right channels. If too many waste cans gather in the 'illegal' slots then it's melt-down time. It has a certain charm, but the graphics are very basic, and I wasn't hooked. — F.F.

From: CHARLIE CHARLIE SUGAR
Format: cassette
Price: £2.99
Graphics: K
Playability: KK
Addictiveness: K


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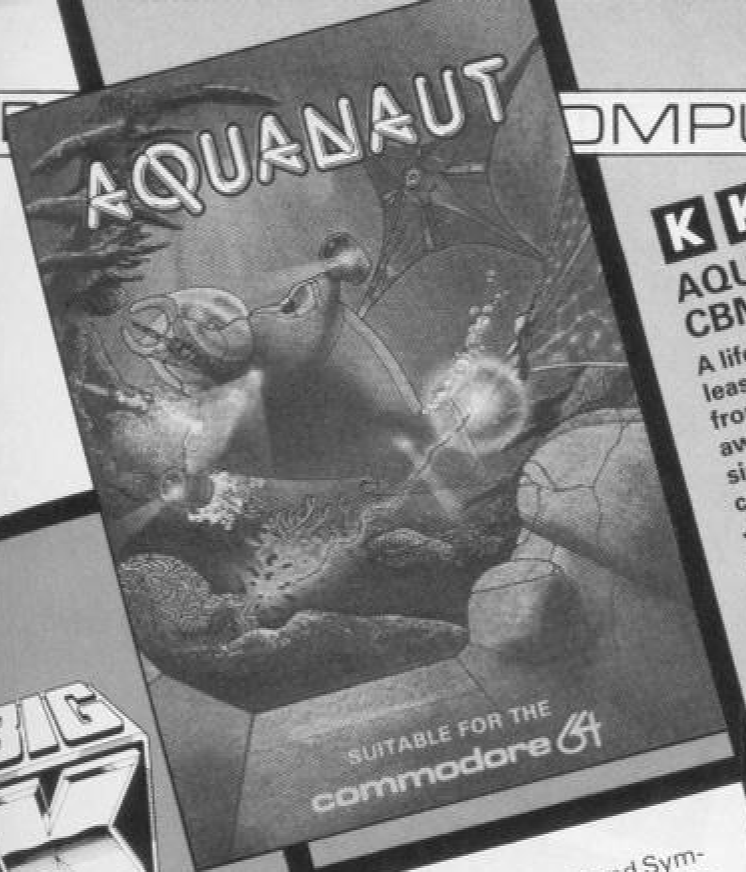
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K K AQUANAUT
CBM 64

A life on the ocean wave, or at least under it, with the theme from *Blue Peter* drumming away in the background. Persistently. All the time. Without cease. I was half expecting John Noakes to pop out from behind a rock towing Petra in a diving mask.

Starting off in a submarine in a cavern, the first thing you do is crash into a wall and drown. After a while things get better; you get out of the cavern and crash into a rock and drown, and wait until you get to the hard bit. Things get easier with practice and eventually you get to find your way around quite well. It looks like the caves go round in a circle so you find yourself back where you started, although I'm not sure since life gets pretty hectic after you've got through a few levels. As far as I could see there was no way of avoiding the enemy missiles. You can't shoot them down and they home in on you faster than you can run away. Occasionally you can get one to destroy itself on a rock but it's more by luck than judgement.

Still, I enjoyed playing it and it says a lot that I'm prepared to go back and spend a few more hours annihilating myself until I get it right. — K.A.

From: INTERCEPTOR SOFTWARE
Format: cassette
Price: £7.00
Graphics: KK
Playability: KK
Addictiveness: KK

K K K KOKOTONI WILF
Spectrum 48K

Elite claim that this one takes over where *Jet Set Willy* left off. I'm not 100% sure about that, but *Kokotoni Wilf* is pretty impressive in its own right.

The lead character — we're never given an explanation for his bizarre name — is a magician's apprentice. Said magician, the mighty Ulrich, sends Wilf to get the bits of a powerful Amulet which are scattered up and down the corridors of time (why is it that magicians are always losing things?). Wilf is gifted with the wings of an angel and sent to the Mesozoic to dodge big lizards.

There's a lot of dodging to do. I discovered pretty soon that I had to watch out for anything yellow — it's always deadly. The hero is moved left and right using the Z and Symbol Shift keys, and Up with the O key. Hazards, not always yellow, include pterodactyls, ichthyosaurs and sabre-tooth tigers (not quite right that last one). The graphics are variable — the bigger monsters are beautifully drawn and animated, but many others are not really so special.

Still, it kept me glued to the screen in an effort to get out of the Jurassic bit and find out what the next historical period for Wilf's search is. There are over sixty screens, Elite say, so I've only seen a fraction of the full thing. A treat for the eyes this one, but I'd like to have had more to do — other objects to pick up maybe. — F.F.

From: ELITE SYSTEMS
Format: cassette
Price: £5.95
Graphics: KKK
Playability: KKK
Addictiveness: KK



K EASI-AMSWORD
Amstrad

Though I still think AtariWriter is the ugliest and slowest word processor program ever conceived, *Easi-Amsword* is a real contender. At least the Atari horror was a ROM, while you actually have to spend 6 minutes loading this swine. When you do, you get a Main Menu that lets you create, edit, Name, Retrieve, Save, Print, Tapeprint and Define Colours. For a start you can only have one document in the memory, so Create will delete anything that's already there. Create will ask you if you want 80 or 40 columns, after which you go into Edit mode. You want 80 columns? So OK, ruin your eyesight, what do I care? Forget 80 columns, it's microscopic.

Edit gives you that fine old Atari tradition of wrapping round at the end of each line which is what makes all these pseudo-word processors so irritating and worthless. Name lets you rename a document so that you can keep different versions on tape. Save puts them onto tape, Retrieve brings them back into memory, Print lets you print off, and Tapeprint lets you print off from a Saved tape. Define Colours is a real goodie. I don't know what it looks like on the monochrome monitor, but anybody who wants to work in black/green or black/grey seems to me in serious need of professional help. In 40 columns, green/white and black/white are reasonably acceptable, apart from all the other drawbacks. You may need a Z80 for word processing, but you also need a decent program, as the BBC has with *WordWise*; and *Easi-Amsword* just doesn't make it.
— J.C.

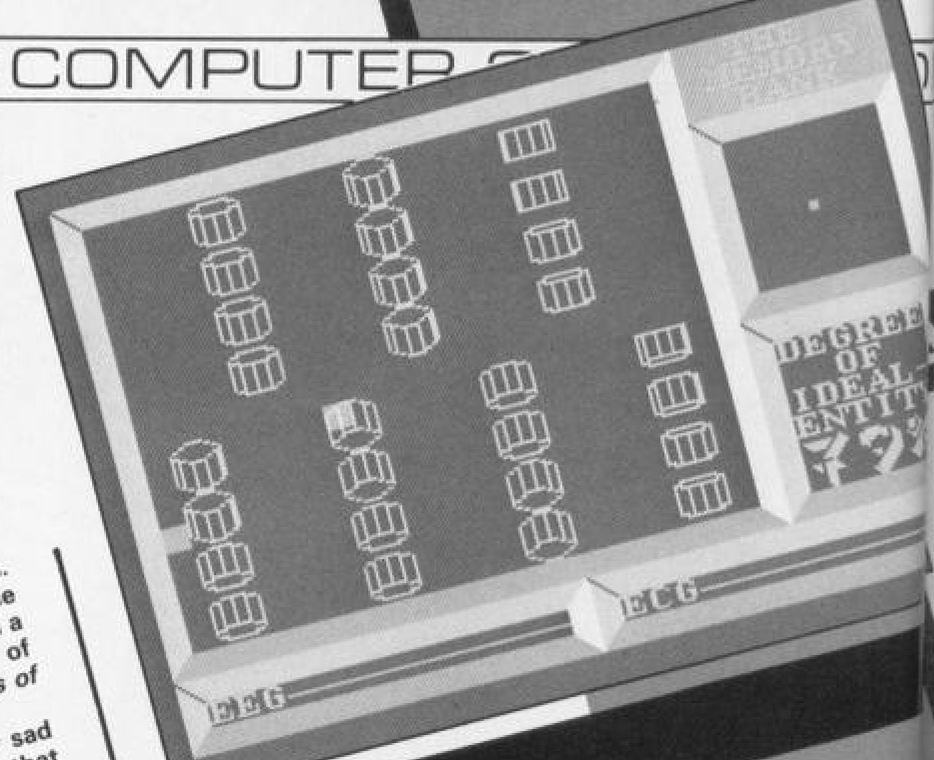
From: JUNIPER COMPUTING (AMSOFT)
Format: cassette
Price: £9.90
Graphics: N/A
Playability: N/A
Addictiveness: Quit



KK

DEUS EX MACHINA
Spectrum 48K

DANCE OF THE DANGEROUS DEFECTS



This is NOT a game. In *Deus Ex Machina*, Automata have produced what may well be the first 'computer video'. It comes on two cassettes, one a sound track featuring an all-star cast and Mel Croucher's music, the other a program which must be synchronised with the sound cassette. A count-down is provided on both to get this right. It's all based on a hoary old SF theme, owing more to Huxley's *Brave New World* than to G. Orwell. In some heavily computerised future all foetuses are nurtured in the test tube. Their life activity is monitored by The Machine, until one day through an accident involving a mouse dropping, a 'defect' is produced, a human who deviates from the biological and cultural norms. The program and script trace the life of this new being, in a computerised rewrite of Shakespeare's *Seven Ages of Man*.

Said life being a rather sad parable. The lesson is that those whom society rejects — the misfits — often develop into people of exceptional talent who are subsequently corrupted by — and promote the values of — the very system that rejected them. Lost innocence is not the most original of themes, but it's still a poignant one.

The cast is impressive, and I particularly liked Frankie Howerd's comic-opera Captain Korg of the Defect Police. Jon Pertwee as the narrator, and Ian Drury as the cheeky cockney Fertiliser are just right. As a bonus we even get extracts from E. P. Thompson's speeches as The Voice of Reason. Mel Croucher's synth-based music is adequately atmospheric, although not of much interest in itself.

Decomposing

As for the graphics, these are very spare, but encompass a wide range of images. From a screen-full of wriggling spermatozoa to the fat Justice trudging self-importantly through decomposing ruins, they chart the progress of a wasted life. At each stage, the illusion is presented of it being a game, and indeed the operator can intervene. Move the cursor over the DNA strands, and they rotate faster. Rotate the shields about the running soldier and keep out the serpents of corrupt temptation and the flames of guilt. The intervention alters the immediate image, but changes not one whit the outcome of the sequence — corruption, senility, death.

This is depressing in its way, but I have no quarrel about that. Some things about reality are depressing and, even in this gimmick-laden computer-world of ours, need not be faced. Automata deserve credit too for their treatment of human sexuality in a field where it has to date been a one hundred percent taboo subject.

But — and it's a large but — I cannot imagine wanting to watch *Deus ex Machina* more than twice at the outside. Really it's a very slight project, and it throws away that little thing which is most valuable about computers — user involvement. One screen of *Jet Set Willy* is a far richer experience.

Neither do I entirely like Automata's moralising. I'd go along with their sentiments on racism and sexism in games for sure, although as far as I can see less than one percent of games are sexist or racist. But it is pretend violence? (To paraphrase the words of the Fertiliser?) Indeed, are killozap games violent at all in the sense of inducing feelings of aggression in the player? Automata may say yes, but I'm not so sure . . . So I've decided to look on *Deus ex Machina* as an experiment, and if projects like this can push computers and computer games further towards the real world and further towards being a media form, then so much the better. However, in this specific case, with the best of intentions, the goods are simply not delivered. — F.F.

From: Automata U.K.
Format: cassette
Price: £15.00
Games ratings not applicable.





A Whole New Ennui

LASER REFLEX
BBC

From: TALENT COMPUTER SYSTEMS
Format: cassette
Price: £7.95
Graphics: K
Playability: K
Addictiveness: 0

Bog standard alien cruncher with the novel twist that instead of firing directly at them — as would any sane and normal person — you fire sideways and bounce your shots off a mirror to screen right. Seems whoever designed this defence system was off his marbles.

The plotline runs something like this: you're on a planet — base of screen — a lot of aliens descend from the skies above and you either pick them off the sideways special or they crash into the planet surface and wipe out a chunk of the vaguely hi-tech buildings built on it. If too many chunks get torn off you lose a life.

There's not much to be said about this except that if you leave it by itself the aliens continue to crash into buildings for about half an hour before the proceedings finally grind to a halt through lack of lives. As far as playing the game goes, intense boredom sets in within five minutes; after about ten the eyes start to glaze over and before half an hour has passed a comotose state is induced that makes an overdose of sleeping tablets look like an afternoon nap. Try counting sheep, it's cheaper and more entertaining. — **K.A.**

TURMOIL KK
Spectrum 48K

Oil Is Too Small A Word For It

Turmoil owes a debt to the girders-and-ladders games that have appeared in droves this year, but has a certain bizarre individuality that saves it.

The hero, Mick Mechanic, is an obvious descendant of long-suffering Mario, but instead of rescuing Fay Wray, he has to collect oil from a dripping tank and carry it to a grille, where after filtering through, each drop makes a bit more car appear. When the full car has been drawn in, you win the frame. This procedure is not without hazards, because roaming up and down the ladders, along the ledges, and bounding off the trampolines are a number of irate Arabs. It isn't easy to avoid them, and if they catch Mick they give him a jolly good hiding. They can be made to slip up on drops of oil though.

This annoyed me a little. Arabs are an easy target, because they're seen to be rich, but I do not find funny the use of any ethnic group as arcade baddy. After all, what next? Happy eye-rolling, melon-eating darkies with a natch'l sense o' riddem? Or thick micks (like this reviewer) with a predilection for alcohol (that last bit is true in my case)?

Getting off the soap-box, in spite of this, *Turmoil* isn't bad. There are about seven different screens, and the game is challenging enough. I just wish people would stick to aliens and killer robots ... — **F.F.**

From: BUG-BYTE SOFTWARE
Format: cassette
Price: £6.95
Graphics: KK
Playability: KK
Addictiveness: KK



KK

GUARDIAN · CBM 64

PHEW! It's nice to know I'm not getting any kicks playing infant school games. Alligata are kind enough to inform us that they consider this *Defender* variant suitable for anyone over 9 years old. So now we know.

The game itself is a reasonably capable implementation of the classic. As you move, the surface of a planetoid scrolls past horizontally. Wandering disconsolately around the surface is a handful of humans, who're being preyed upon by a motley bunch of aliens. The object is to zap the aliens, pick up any humans they've snatched and put them back on the surface for bonus points.

Controls are up/down/right/left, with a laser cannon main armament. A 'smart bomb' capability destroys all aliens on the screen, although you only have three of these. Alligata have retained the radar display which shows alien positions when they're off-screen, and which was my favourite feature of the original. Unfortunately they've reduced the number of different aliens to five, whereas, as I recollect, the original had twelve. This detracts slightly from the charm, but still a workmanlike effort. — **F.F.**

From: Alligata Software
Format: cassette
Price: £7.95
Graphics: KK
Playability: K
Addictiveness: KK

ARCHIPELAGO K
CBM 64

No Man Is An Island

A QUICK SHUFTI through the instructions reveal in very great detail how to turn on my computer. Very useful, but what I want to know is ... who's this Archie Pelago person and what's he got to do with my being kept entertained for the néxt hour or so at the keys of my Commodore? Further reading reveals the truth about Pacific islands and running around in caves collecting treasure etc., so I decide to give it a bash.

Initial impressions are good; a very nice image of a cave and a figure running like hell for it and then a blank screen. A line appears, snaking about the screen like an insane lump of spaghetti, rapidly forming either a maze or a crossword puzzle. It turns out to be a maze. (I could tell because you don't often get fleas running around in crossword puzzles. Come to think of it you don't often get fleas running around in mazes but the instructions seem to bear out my train of thought.)

The fleas turn out to be intelligent spiders. I asked them about the Theory of Relativity but they didn't seem to know about it. Anyway, to achieve any degree of success in this game requires that you kill them rather than indulge in small talk so it doesn't matter anyway.

No prizes for guessing that you have to guide a man around the maze, collecting treasures and avoiding or killing spiders. Nor for guessing that when all the treasures are collected you get another maze, more difficult than the previous. Is there never anything new and original in computer games? No prizes for an answer to that one either. — **K.A.**

From: TALENT COMPUTER SYSTEMS
Format: cassette
Price: £7.95
Graphics: K
Playability: K
Addictiveness: KK

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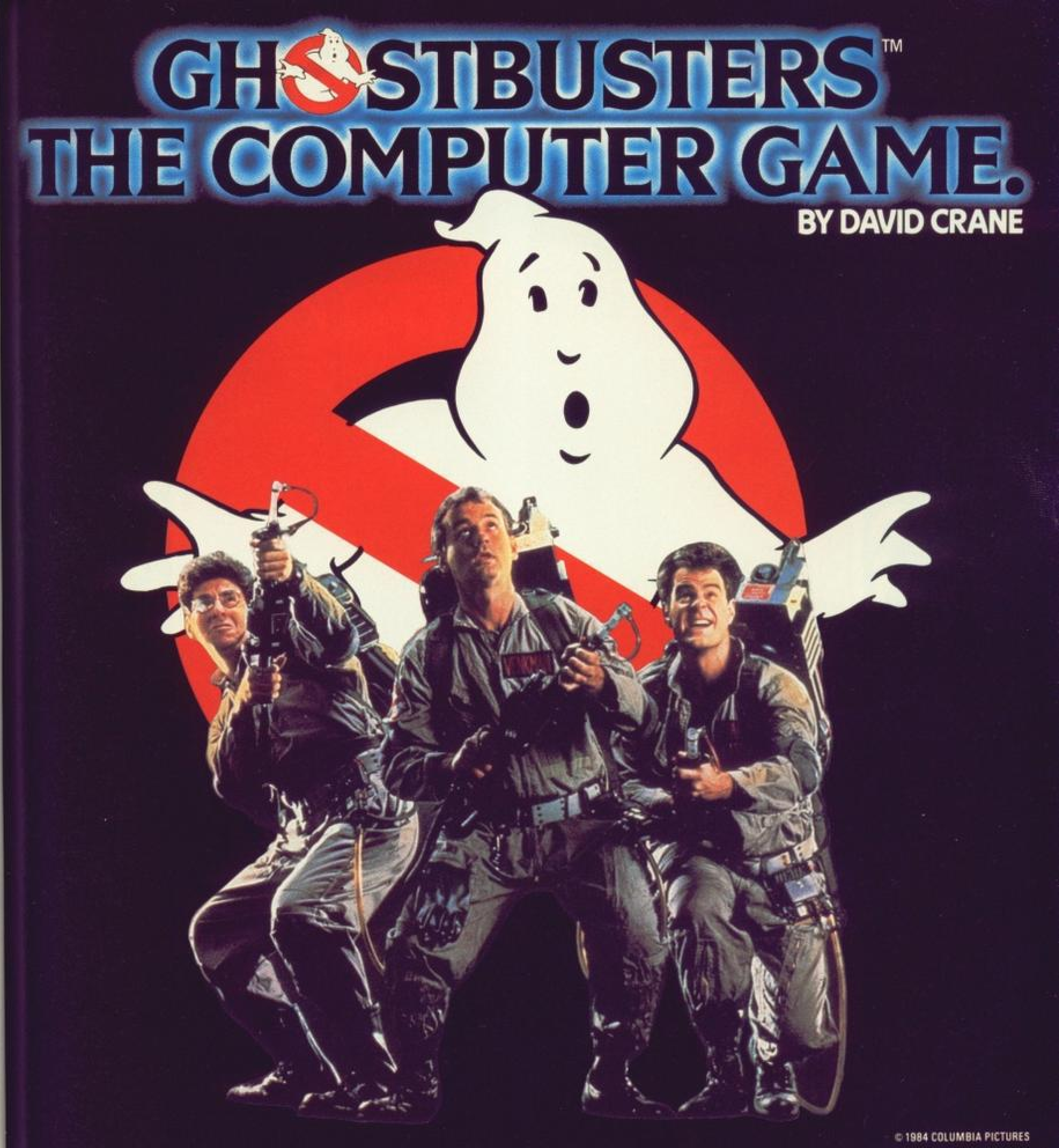
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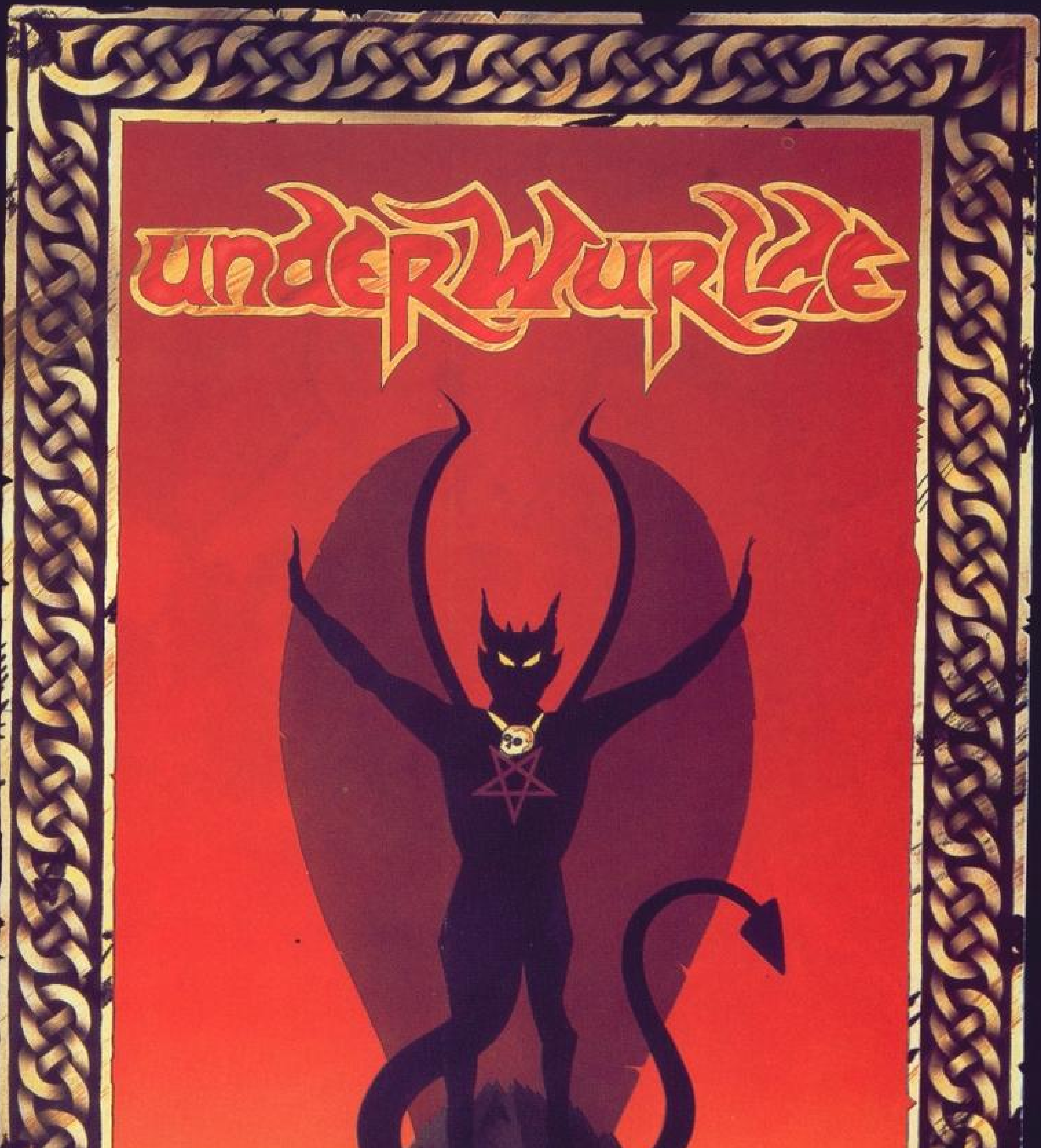
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BEACH-HEAD Spectrum 48K

K

ELDERLY AMERICAN

It's nice to know that the dam' Yankees can produce turkeys as easily as any Brit software house. *Beach-Head* is as well thought-out as the average White House press release.

The sleeve notes are promising. There are seven stages in play, each of which is a little game in itself. The trouble is that they're all totally boring. To take one example, the first, all you have to do to complete it is move a cursor across a map from point A to point B. This involves the superhuman ability to distinguish between the up, down, left and right keys. A half trained rhesus monkey could do it.

U.S. Gold's Commodore products impress me. When it comes to the Spectrum, I think they'd better sharpen up their act. — **F.F.**

From: U.S. GOLD/ACCESS SOFTWARE
Format: cassette
Price: £7.95
Graphics: K
Playability: K
Addictiveness: K

K K

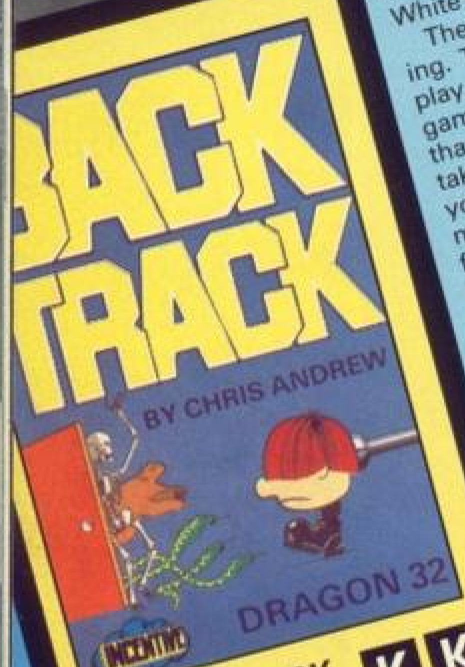
ZOMBIE ZOMBIE Spectrum

After fiddling around with this for about half an hour, I'm left with lingering feelings of bewilderment. *Zombie Zombie* is definitely for those who relish enigmas.

The sleeve offers little help, simply one of Quicksilva's crazed blurbs, which I must admit I always enjoy reading. The game itself looks great on first impression, but you have to pick up tips on playing from the demonstration mode. This much do I know ... You are in a ruined city with a little red helicopter at your disposal. The ruins are beautifully realised, in what Quicksilva term Softsolid graphics. You can climb into the chopper and fly around, in which case the ruins can be re-arranged by picking up or dropping individual blocks. In the helicopter you are safe, but if you choose to go foot-slogging, along come the zombies. Nasty little green figures, these do something of an unspeakable nature to you if they get close, but you can temporarily blow them away.

But here's the puzzle. What really is the object of the game? In the demonstration it seems as though you have to construct ramps up which to lure the zombies so that they can fall to a precipitous death. But to me this seems a rather clumsy tactic in what is otherwise a very elegant game. I suppose I'll have to accept it, though. The game failed to hook me as I just couldn't believe in it. — **F.F.**

From: QUICKSILVA
Format: cassette
Price: £6.95
Graphics: KKK
Playability: K
Addictiveness: KK





K K

BACK TRACK Dragon 32

Dragon software is usually uninspiring stuff, and of late there hasn't been a lot of it, so I feel charitably disposed towards this Incentive offering — it tries hard.

Our hero is Eddie, an unappealing youth who lacks a torso — his Dr. Martens start just below his chin. Poor Eddie is being made to run mazes by a mad behaviourist, who has — rather unscientifically I think — released snakes in the maze as a hazard. There is however a map lying around in there somewhere. To get out of the maze, at least four keys have to be picked up, and in the right order. The number of keys goes up by one for each level of play. To add gastronomic interest, there's a fair bit of fruit lying around to be picked up, too.

Movement is with the cursor keys, and pressing M gives the map. The display shows a birds-eye view of Eddie's current position, and it's passably well done, the laws of perspective being adhered to. It's not the most spectacular game in the cosmos, but by Dragon standards ... well, say no more. — **F.F.**

From: INCENTIVE SOFTWARE
Format: cassette
Price: £6.50
Graphics: KK
Playability: KK
Addictiveness: K

ART DESIGNER BBC Model B

K K

GOOD GRIFFE

A short while ago I reviewed *McVid* from pICa software, a very nice and comprehensive set of routines which gave the user machine code graphics of all types in all screen modes, something on which there is very little advice for the serious user, so I was expecting something very flash when *Art Designer* dropped through the letterbox the other day. Unfortunately I was disappointed. It's is a very simple package with very few really useful facilities for making images other than pretty patterns.

First of all let's look at what it does. Options listed include airbrush, circle, elipse, draw, area fill, filled blocks and text. All very nice except they don't come easy and you can't do much with them. For a start, everything is in Mode 2. Fair enough, you say, more colours, but why not give the user a choice, he might want more detail from a hi-res mode. Then there's keyboard input. The cursor keys are used to position a cursor and every function requires a control character, that is CTRL and a key, both at the same time. In airbrush mode you have to keep the keys held down at the same time as the cursor keys, three keys for one function is asking too much. Why not use a single key to toggle functions?

Circle and elipse routines are much the same in their over-use of keys. First CTRL P for the centre, then CTRL R for the radius in the case of a circle or two CTRL Es for an elipse, after which, in both cases, you have to specify whether solids or lines are required. On top of this you get a whacking great white dot in the centre, and what happens if you want an elipse drawn at an angle to the horizontal?

I could go on like this but there seems little point really, other than to say I wouldn't recommend it to anyone over seven and that I'm disappointed to see it come from such a company who got off to such a good start.

Incidentally, there's a character editor sitting inside it somewhere. There have also been several hundred character editors just as good going for free in just about any magazine you care to pick off the news-stands, BIG-K included. — **K.A.**

From: pICa
Format: cassette/disc
Price: £7.95
Graphics: K
Playability: N/A
Addictiveness: N/A



ELECTION TRAIL CBM 64

KK

Your Own Elect-Ron Simulator

You schmucks out there may think that being a Galactic Patrol Combat Ace is the zenith of achievement. Well, it ain't. In *Election Trail* you go for the real Big One. Yessir, you can run for President of the U.S. of A. itself, greatest nation on this backwater planet.

The campaign is fought across a very detailed map of the U.S. — you play the Republican Candidate. The action is menu-driven, and for each round of play (you can choose how many campaign rounds you're going for at the start of the game) you can decide whether to spend money on a media blitz, a walkabout in a selected state, or 'buying' a celebrity (corrupt stuff this). You have to watch the campaign funds, because celebrities and media blitzes don't come cheap. Money can be saved by going for a simple debate or press conference. I liked these, they ask you trick questions. If, for example you state that you wish to cut car exhaust emissions, you'll get the unions on your back for wanting to cut motor industry jobs. So mind what you say!

Budding psephologists note that each state is classified according to its real electoral bias, so no Democrat should spend money and time fighting Utah. This adds an educational tinge to the game.

I enjoyed the game, it's witty and a lot of thought has gone into it. I do feel it might be better as a two person game — the machine isn't a great opponent — neither am I sure how long it will keep my interest, but it's an awful lot better than the British Election game *Westminster*. — **F.F.**

From: MIND GAMES
Format: cassette/disc
Price: cassette: £7.95
disc: £9.95
Graphics: KK
Playability: K
Addictiveness: KK

KK

KUNG-FU
Spectrum 48

GRIEVOUS BODILY NIRVANA

For aspiring Shao-lin monks Bug-byte have knocked out this simulator that takes you through the moves without all those nasty bruises. Truly, seeking enlightenment on a Spectrum is like riding an ox to go see an ox.

You can play the machine as opponent, or you can play another human (if you can both get your hands on the keys). Either way, you are rewarded with a view of a Chinese interior, with a sort of willow-pattern background. Two animated figures represent the players. They can move backwards or forwards, or you can select, using the numeric keys, from a repertoire of blows. Two punches and two kicks are available, and it takes concentration to find your opponent's moment of vulnerability.

The animation is convincing, but I didn't find the game spectacular enough to sustain my interest. Perhaps the answer is to Become One With The Machine (smear super-glue on the keys?). — **F.F.**

From: BUG-BYTE SOFTWARE
Format: cassette
Price: £6.95
Graphics: KK
Playability: KK
Addictiveness: K

INTERDICTOR PILOT
CBM 64

KK



No messing around with a few paltry sleeve notes for Supersoft. In fact they save *Interdictor Pilot* from being a rather mundane cockpit-view shoot-em-up by including a 47 page operations manual, and it's not bad reading. In spite of the simplicity of the basic concept — get the enemy in our sights and blast away — this is not a game that can be learned quickly. You are provided with a bewildering array of indicators and gauges which show everything from range to target to systems statuses. When you have mastered your Interdictor sufficiently to get to grips with a Gallanic Cruiser the graphics turn out to be quite well done — as the target moves past you, you get side and angled views depending on its orientation.

Enemy craft don't simply disappear off to the rear either. It's possible to turn around and give chase. This is unusual for this sort of game. But the real selling point is that manual. It's so thorough that you can really enter into the whole fantasy. It actually managed to make me feel guilty for trying to zap one of my own side's vessels — and for a ruthless and battle-scarred old space rat like me, that's an achievenement. — **F.F.**

From: SUPERSOFT
Format: cassette
Price: £17.95/Disc £19.95
Graphics: KK
Playability: KK
Addictiveness: KK



CLASSIC ADVENTURE — Amstrad

KK

Well here we are folks, the machine has only been around for a couple of months and it's already got it's own version of that granddaddy of all Dragon and Dungeon games, *Classic Adventure*. Makes you want to go out and shake the author by his hand. No? How about his neck? Yes? Then read on, disciple of cynicism.

This type of conversion makes me want to park my breakfast in the nearest winding passageway leading North. Amstrad has bestowed upon us the most wonderful thing since bread with now't taken out — and what does Joe Punter get after forking out hard earned cash for his wonder machine? Spectrum conversions! And what do they convert? *Jet Set Willy? Manic Miner? Sabre Wulf*? No, Amsoft give us *Classic Adventure*.

I'm afraid you have to take what I say with a pinch (or maybe a ton) of salt since I'm not a great fan of adventures. So however much I hate to say it this is a good game even though in my mind the only good adventure is a cracked adventure. Although Level Nine market a very similar product I'd say that Amsoft's version is the best. Nice features include HELP and INFO commands which saves the hassle of getting of hint sheet. Quick response times and decent descriptions of locations will appeal to potential Amstrad adventurers. And before anyone writes in singing the praises of adventure games in general I had better reveal why this game gets up my nose. It's because I find it so difficult to get anywhere worth mentioning. I mean, how do you get past that snake? — **G.L.**

(*Drop bird — Ed.*)

From: AMSOFT
Format: cassette
Price: £8.95
Graphics: KK
Playability: KK
Addictiveness: KK

WHERE IS

Kong is more than just a giant ape. This figure is a reference to the Ape-Demon Malmazius, mentioned in the Dread Necronomicon. This demon seizes mortal women and lives on a high pinnacle from which he hurls down fireballs. He can also become invisible, which is why you don't see him in this Kong game.

```
  5 REM © J.Schofield 1984.
  7 GO SUB 2000
  8 FOR f=0 TO 30 STEP 1.5: BEE
P 0.025,f: NEXT f
  9 GO SUB 1180
 10 DATA 19,11,4,13,25,5,9,16,4
,11,13,2,5,0,3,5,5,6,5,13,12,5,2
7,4,9,16,2,9,0,7,9,22,6,11,8,1,1
3,0,4,13,16,5,15,6,9,17,26,5,17,
0,4,17,17,6,18,6,3,21,0,31
 20 DATA 2,25,2,5,3,3,9,0,3,9,2
9,3
 30 DATA 21,0,31,18,23,3,17,0,6
,17,12,4,17,18,3,15,8,2,15,23,1,
13,26,5,13,0,7,13,10,1,12,15,2,1
3,19,2,11,12,1,11,23,1,10,6,4,9,
0,4,9,25,6,9,15,7,5,2,14,5,18,11
 40 DATA 15,15,1,12,17,2,2,27,2
,13,1,3
 45 LET highscore=0
 50 LET score=0: LET level=1: L
ET lives=2
 60 BORDER 0: INK 7: PAPER 0: C
LS
 70 OVER 0: INK 5
 80 FOR g=5 TO 21 STEP 4: PRINT
 AT g,0;"XXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXX": NEXT g
 90 GO SUB 960
100 FOR y=5 TO 19 STEP 4
110 PRINT AT y+1,RND*29; BRIGHT
 1; INK 4;"K"
120 LET xlad=26*RND: LET x=31*R
ND
130 PRINT AT y,x;" "
140 GO SUB 980
150 NEXT y
160 INK 7: PLOT 200,143: DRAW 7
,0: PLOT 216,159: DRAW 7,0
170 GO TO 360
180 IF level=2 THEN RESTORE 10
190 IF level=3 THEN RESTORE 30
200 FOR t=0 TO 19
210 READ y,x,l
220 FOR l=0 TO l
230 PRINT INK 5;AT y,x+l;"Z"
240 NEXT l
250 NEXT t
260 FOR x=0 TO 3
270 READ y,xlad,lo: GO SUB 980
280 NEXT x
300 IF level=2 THEN RESTORE 340
310 IF level=3 THEN RESTORE 350
320 FOR p=0 TO 10
330 READ y,x: PRINT BRIGHT 1; I
NK 4;AT y,x;"K": NEXT p
340 DATA 16,13,18,28,15,31,14,2
,14,19,14,29,10,3,10,16,10,28,8,
14,6,28
350 DATA 19,28,18,14,14,2,14,13
,10,20,10,28,7,1,7,7,6,19,6,27,2
,13
```



Controls:

Z:	Left	S:	Up
C:	Right	X:	Down
Shift Z:	Jump left		
Shift C:	Jump right		

KONG?



p
own

WHERE IS KONG? for Spectrum

T. Schofield

```
 360 INK 7: LET y=0
 370 GO SUB 830: GO SUB 840
 380 OVER 1: INK 8
 390 LET y=20: LET x=0
 400 PRINT AT 0,2; INK 7;"SCORE
";score
 410 PRINT AT 0,20; OVER 0; INK
7;"LIVES          ": FOR f=1 TO live
s*2 STEP 2: PRINT AT 0,25+f;"♣":
NEXT f
 420 PRINT AT 1,11;"High ";highs
core
 430 PRINT AT y,x;"♣"
 440 IF SCREEN$ (y+1,x)=" " THEN
GO SUB 570
 450 PRINT AT yb,xb;"●";AT yb1,x
b1;"●"
 460 BEEP (INKEY$<>"")/65,-y
 480 PRINT AT y,x;"♣"
 490 LET x=x+(INKEY$="c")-(INKEY
$="z")
 500 LET y=y-(INKEY$="s")+(INKEY
$="x")
 510 IF INKEY$<"a" AND INKEY$>"A
" THEN GO SUB 850
 520 PRINT AT yb,xb;"●";AT yb1,x
b1;"●"
 530 GO SUB 770
 540 IF SCREEN$ (yb+1,xb)=" " TH
EN LET yb=yb+2
 550 IF SCREEN$ (yb1+1,xb1)=" "
THEN LET yb1=yb1+2
 560 GO TO 430
 570 PRINT AT y,x;"♣"
 580 IF y<1 THEN GO TO 1030
 590 FOR b=1 TO 2
 600 LET y=y+1
 610 PRINT AT y,x;"♣"
 620 IF SCREEN$ (y+1,x)="" THEN
BEEP .1,-12: RETURN
 630 GO SUB 770
 640 PRINT AT y,x;"♣"
 650 NEXT b
 660 IF SCREEN$ (y+1,x)="" THEN
GO TO 680
 670 LET y=y+1: GO TO 660
 680 PRINT AT y,x; OVER 0; INK 2
;"▒"
 690 BEEP 0.1,-30: BEEP 0.1,-40:
 FOR x=0 TO -30 STEP -1: BEEP .0
5,x: NEXT x: LET lives=lives-1:
IF lives<1 THEN GO TO 1110
 700 PRINT AT 11,13; OVER 0; INK
 6; PAPER 0;"Ready ?": FOR f=0 T
O 50: NEXT f: IF score>100 THEN
LET score=score-100
 710 CLS : RESTORE 10: GO TO 60
 715 IF ATTR (y,x)>66 THEN GO TO
 680
 720 BEEP .2,36
 730 LET score=score+10
 740 PRINT AT 0,8; OVER 0; INK 7
;score
 750 PRINT AT y,x; OVER 0;" "
 760 GO TO 490
 770 LET xb=xb+one: LET xb1=xb1+
one1
 780 IF yb=y AND xb=x THEN GO TO
 680
 790 IF yb1=y AND xb1=x THEN GO
TO 680
 800 IF xb1>30 OR xb1<1 THEN LET
 one1=-one1: IF yb1>y THEN GO SU
B 840
 810 IF xb>30 OR xb<1 THEN LET o
ne=-one: IF yb>y THEN GO SUB 830
 820 RETURN
 830 LET one=1: LET xb=1: LET yb
=2*INT (y/3): RETURN
 840 LET one1=-1: LET xb1=29: LE
T yb1=2*INT (y/3): RETURN
 850 LET jump=(INKEY$="C")-(INKE
Y$="Z")
 860 BRIGHT 8
 870 PRINT AT y-1,x;"♣": BEEP .0
5,0
 880 IF ATTR (y-1,x)=5 THEN GO T
O 680
 890 PRINT AT y-2,x+jump;"♣": BE
EP .05,5
 900 PRINT AT y-1,x;"♣"
 910 PRINT AT y-2,x+jump;"♣": BE
EP .05,10
 920 LET x=x+2*jump: LET y=y-2
 930 BRIGHT 0
 940 IF ATTR (y,x)>67 THEN GO TO
 715
 950 RETURN
 960 PRINT INK 6; BRIGHT 1;AT 2,
1;"▒▒"; INK 2;AT 3,1;"▒▒";AT 4,1
;"▒▒"
 970 RETURN
 980 IF level=1 THEN LET lo=3
 990 FOR l=0 TO lo
1000 PRINT AT y+l,xlad; INK 3; O
VER 0;"▒"
1010 NEXT l
1020 RETURN
1030 RESTORE 1050
1040 FOR i=0 TO 8: READ h,j: BEE
P h,j-12: NEXT i
1050 DATA .1,11,.1,11,.5,16,.05,
11,.05,16,.05,11,.05,16,1,20,0,6
,9,15,9,6,0
1060 LET score=score+200
1070 LET level=level+1
1080 IF level=4 THEN LET level=0
 : CLS : GO TO 70
1090 INK 7: CLS
1100 GO TO 180
1110 CLS
1120 IF score>highscore THEN LET
 highscore=score: PRINT AT 3,5;"
You have the high score": FOR f=
10 TO 50 STEP 2: BEEP .02,f: NEX
T f
1140 PRINT INK 6: PAPER 2: FLASH
 1;AT 10,11;"GAME OVER"
1150 PRINT AT 16,6;"Press ENTER
To Start"
1160 IF INKEY$=CHR$ 13 THEN REST
ORE 10: GO TO 50
1170 GO TO 1160
1180 RESTORE 1210
1190 FOR i=0 TO 10: FOR j=0 TO 7
1200 READ data: POKE USR "a"+i*8
+j,data: NEXT j: NEXT i: RETURN
1210 DATA 56,40,16,124,186,186,4
0,40
1230 DATA 255,129,66,36,24,255,0
,0
1240 DATA 129,255,129,255,129,25
5,129,255
1250 DATA 188,122,240,240,200,13
2,74,4
1260 DATA 60,126,159,157,253,251
,118,60
1270 DATA 4,32,18,136,68,36,20,1
46,8,148,43,68,72,145,170,164
1280 DATA 255,127,103,91,91,91,9
1,103,255,254,110,110,110,110,11
0,98
1290 DATA 255,85,85,127,127,127,
127,255
1300 DATA 255,170,170,254,254,25
4,254,255
2000 OVER 0: BORDER 0: PAPER 0:
INK 7: CLS
2005 LET d$="                .KILLER  KO
NG.                  "
2010 FOR f=29 TO 1 STEP -1
2020 LET e$=d$(f TO 29)
2030 PRINT INK 2+RND*6;AT 10,0;e
$
2040 BEEP .01,RND*15: NEXT f
2050 FOR f=10 TO 2 STEP -1
2060 PRINT INK 5;AT f,0;e$
2070 PRINT AT f+1,0;"
                    "
2080 PAUSE 5: NEXT f
2090 INK 6
2100 PRINT "The object of the ga
me is too   reach the highest po
sition on   the screen and colle
cted as manypoints as possible.
But you haveto avoid being hit b
y the          fireballs that roll
down the     girders.."
2110 PRINT AT 11,8;"..USE KEYS..
"
2120 PRINT AT 13,7;"'Z' to move
left.                'C' to move
right.               'S' to go up
.                    'X' to move
down."
2130 PRINT ';"CAPS SHIFT and 'Z'
 to jump left ";"CAPS SHIFT and
'C' to jump right"
2150 PRINT PAPER 2; INK 6; FLASH
 1;AT 21,5;"PRESS 'ENTER' TO PLA
Y"
2160 IF INKEY$<>CHR$ 13 THEN BEE
P 0.01,5+RND*10: GO TO 2150
2170 RETURN
```

BIG K ARCADE ALLEY SPECIAL



THE LAST STARFIGHTER

Since TRON — and possibly WAR GAMES — the western world has been desperately short of a good videogame movie epic. Now a contender has emerged: THE LAST STARFIGHTER (by those nice folks who brought you DALLAS). It's got everything: romance, evil-looking alien creeps . . . and some of the very best digital starships ever to grace the big screen. PAUL RAMBALI reviews the movie, while JOHN CONQUEST works out how it was all done . . .

DEEP IN the infinite, a space-craft banks into view. It looks like any other space-craft, employing the classical configuration of four out-riding engines and a central fuselage. As the ship turns, a helmeted figure is visible in the cockpit, giving a final salute to the receding planet. Nothing unusual about this, a scene from a new hollywood space-opera, *The Last Starfighter*. Except that the space-craft and the helmeted figure don't actually exist. They are neither models nor actors, but computer-generated images.

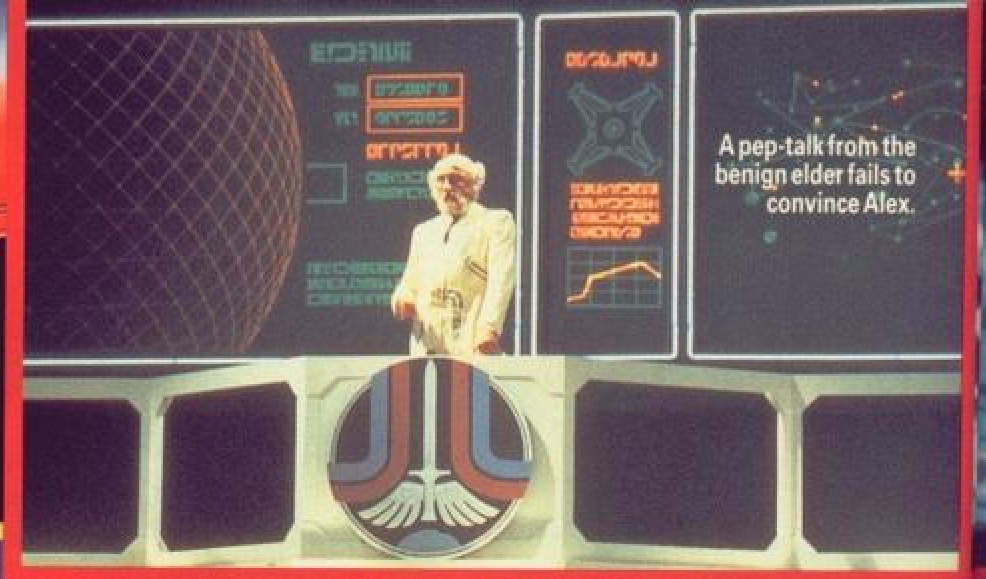
Take another look at this scene, a movie-making first. The space-craft, the home base on a barren, rocky planet, the legions of enemy ships with which it will join battle, and the brief view of the helmeted Starfighter — all of these exist only as digital code stored in the



CONTINUED OVERLEAF

ARCADE ALLEY

THE LAST STARFIGHTER



A pep-talk from the benign elder fails to convince Alex.

memory of a Cray X-MP supercomputer.

The six foot high, 12 million dollar computer, cooled by Freon gas and capable of 100 Megaflops (or 1 billion computations) per second, created almost all of the special effects for *The Last Starfighter*: nearly 300 scenes, about 25 minutes of screen time. The results are, to quote the film's producer, 'photo-real'. Which is to say not quite real — since the subject is anyway fantasy — but strikingly effective. As far as anyone knows, or can compare from the accumulated images of galaxies long, long ago and far, far away, this is what it's really like out there in deep space.

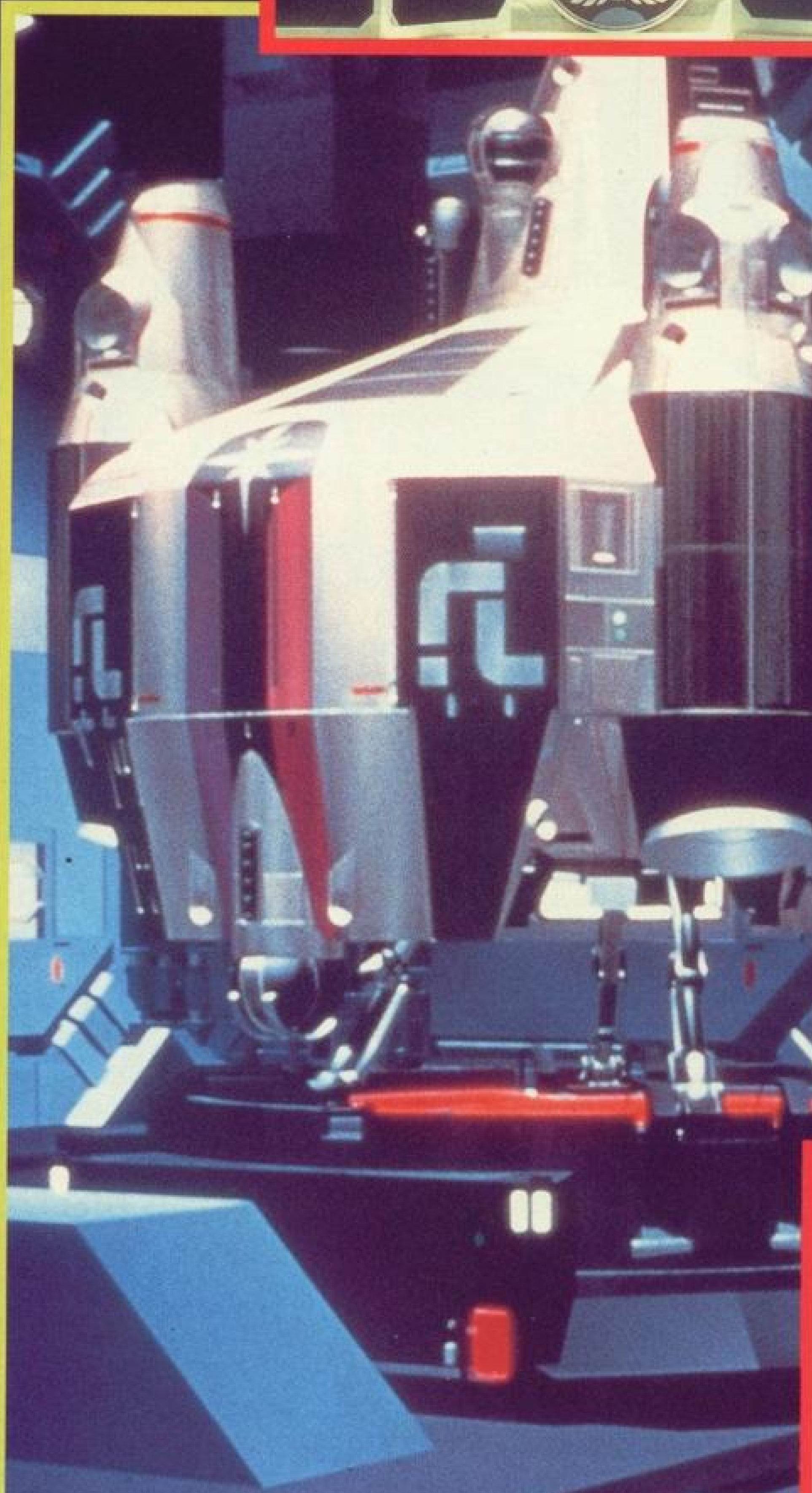
And in deep space, it seems, no-one can hear you scream 'I've had enough!' The Empire has struck back, Spock has been found. What possible nemeses remain to threaten the inter-stellar peace?

Uppermost

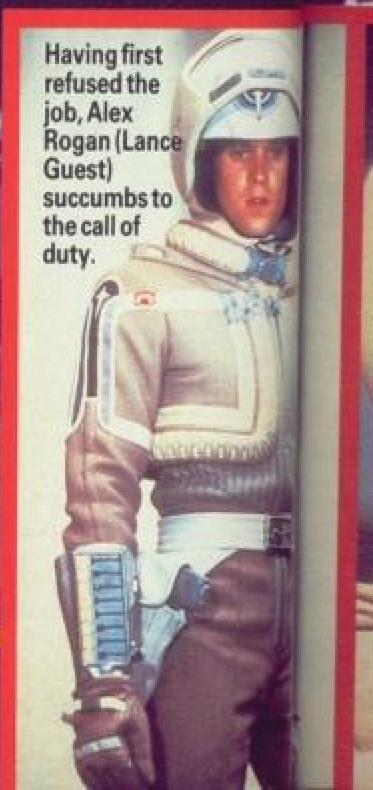
The question is hardly uppermost in the thoughts of young Alex Rogan (Lance Guest). Alex is a major nice guy who lives on his parents' Starlight trailer-park in Nevada, where his girlfriend Maggie also lives. Alex has only two problems in life. He wants to leave the trailer-park. He is perceived as a *nerd*. While his friends are out having fun, Alex has to do the chores, amusing himself meanwhile on the video-game that sits outside the campsite store, flashing ominously.

"You have been recruited by the Star League to defend the frontier against Zouer and the Kodan armada," commands the micro-electronic voice within. Having nothing better to do, Alex complies, notching up record scores on what appears to be a run-of-the-program space shoot-em-up called *Starfighter*.

One evening, a bizarre automobile, its licence plate spelling the word RYLOS, pulls up outside the Starlite park. "Centauri's the name," announces the vehicle's driver. "I invented *Starfighter*!" Climbing inside, Alex is soon being driven at impossible speed. "You're the best, kid,"



Assembled Gunstars await crews in main docking bay. Disaster looms just around the nearest parsec.



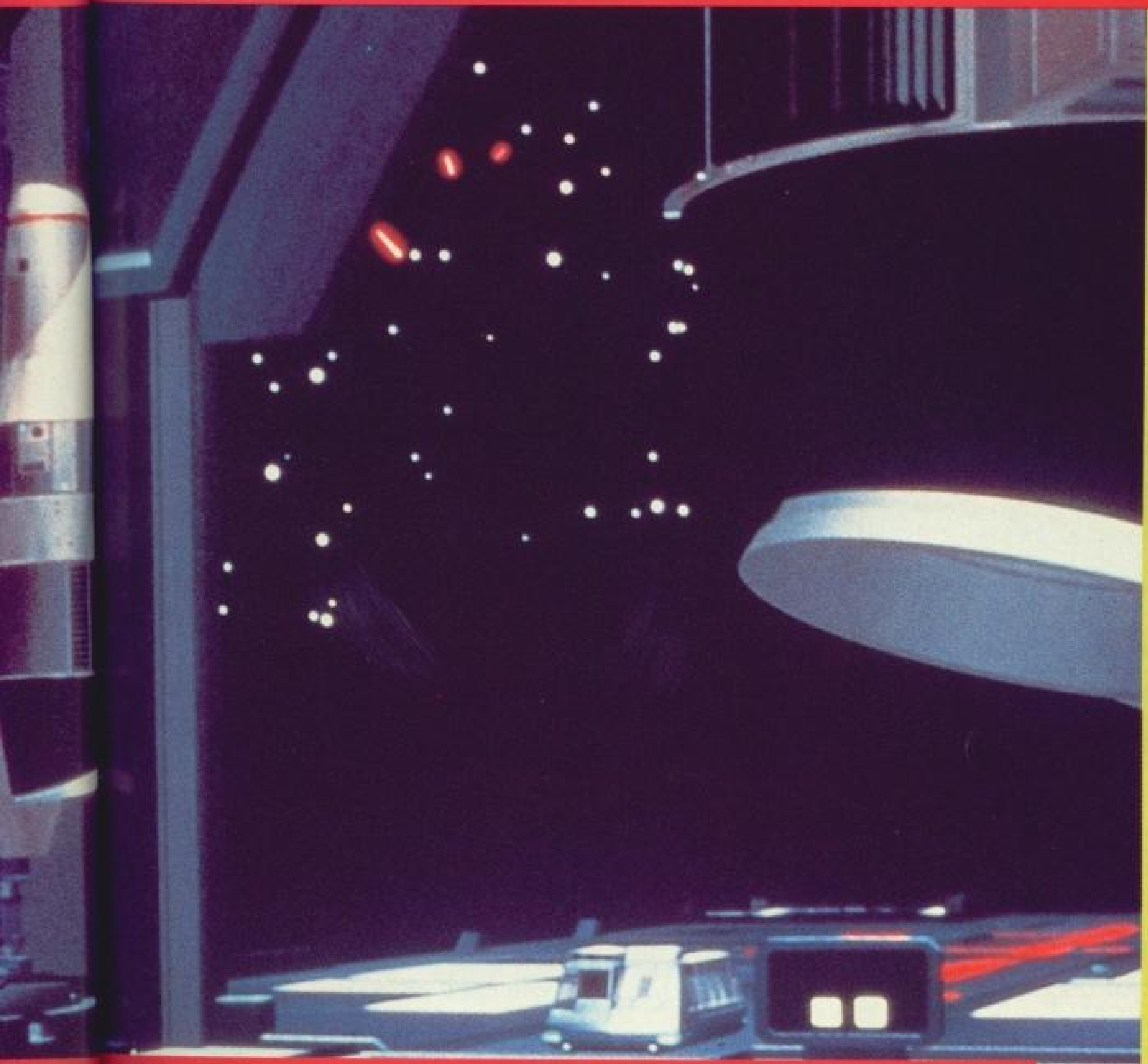
Having first refused the job, Alex Rogan (Lance Guest) succumbs to the call of duty.



Alex is no slouch at Atari's Starfighter game. Just how useful this is, he doesn't realise.



The GunStar. The supreme space fighter, and Alex's mount — eventually.



enthuses Centauri (Robert Preston), a bow-tied, fedora-hatted flim-flam man from — guess where? Before he can protest, Alex finds the vehicle transformed into a space-craft and himself whisked off to Rylos where, against his wishes, our reluctant hero has indeed been recruited to defend the frontier against the Kodan armada.

This promising scenario needs no more elaboration, and gives rise to the first of the movie's dazzling effects sequences as Centauri's car speeds past the rings of Saturn.

The flat, vivid colours and precise, detailed geometric shapes generated by the Cray X-MP begin to fill the screen: Star League bases, Gun Stars, Kodan fighters, acres of space hardware designed by Ron Cobb (*Star Wars*, *Raiders*), fed into the computer point by point and transformed into 3D graphic sequences no less credible than the usual miniature models. "In traditional cinema you are tied down by the mechanics of moving a camera around in the real world," says Cobb. "Now we can sever those ties and generate forms that never existed."

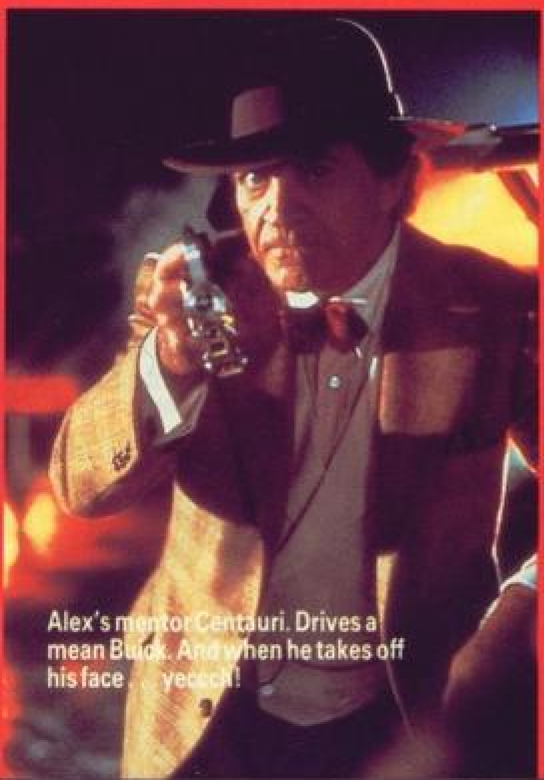
Computations

Working at Digital Productions, who also did the computer animation for *Tron*, Cobb saw his drawings turned into film. Each frame required 72 billion computations — in other words, just over a minute of Cray time. The final cost was 3 million dolars, and for the first time, a Hollywood blockbuster is being trumpeted for how little, rather than how much, it set the studio back. With the Cray — a computer more often used for defence work at the Pentagon — the special effects budget was cut by two-thirds.

Digital Productions have beaten Lucasfilm, also working on computerised screen effects, into the movie theatres. By the end of the decade, they expect to be able to create computer-generated humans, rather than just hardware.

Their work on *Tron*, distinctively gothic in style, was wasted by the film's weak plot and thin characters. *The Last Starfighter* succeeds both as high-tech spectacle and enjoyable hokum. Its hero gets to play the biggest arcade game of all, and gets the girl too. Alex Rogan's graduation from slouch to Starfighter could be anybody's. Given the chance. And — wouldn't you know it? — Atari will be doing just that in UK arcades soon.





Alex's mentor Centauri. Drives a mean Buick. And when he takes off his face . . . yeccch!

CONTINUED OVERLEAF

THE LAST STARFIGHTER

THE ULTIMATE sci-fi shoot-'em-up film has more computer simulation than all previous movies put together, 300 different synthesised shots totalling over 25 minutes of running time. And it's not just quantity — with anywhere from 3 to 5 million polygons in each frame, some sequences shatter all existing records for complexity and detail.

Digital Productions, the creators of this milestone in computer graphics, started out with a Cray 1-S, at the time the most powerful off-the-shelf computer available, but turned it in for the very first Cray X-MP supercomputer to leave the factory, which was four times as powerful. So advanced is the Cray that the top of the line Digital Equipment computer, the VAX 11/780, is used as a front-end processor!

The X-MP houses 200,000 special microchips, joined by 67 miles of wire, in its 5ft. diameter, 6½ft. tall bulk, and weights 15,000lbs. To push all that takes a lot of power, 100,000 watts give or take a couple, which in turn means a monster freon cooling system to keep the copper circuit boards at a constant 680°F. The Cray is a bit fast, with a cycle time of 9½ billionths of a second and is also a bit expensive. If you fancy the sound of it, you'll have to take $12 million out of your Giro account.

Blueprints of objects were drawn on paper, top, bottom, front and back views, then digitised with an interactive cursor, cross-hairs on a glass circle round which a coil gives off a continuous electromagnetic signal, with the encoding table surface acting as an antenna. Flat surfaces are built up with polygons, the vertices between them being encoded, while curved ones are broken up into lots of smaller flat ones that add up to the right shape, which the computer will average out. The Gunstar, our hero's ship, the most detailed object in the film, has 600,000 polygons and took months to encode.

The next stage involves a vector monitor on which the object can be manipulated through x (left/right), y (up/down) and z (forward/backward) axes in black and white line drawing form. The movement of the animation can then be viewed in real time. Motion is created by designating key frames and telling the computer how many frames apart they are. Effects such as laser beams, rocket exhausts and live-action are composed at the same time. Then the action can be tested and changes made either by adding in more key frames or modifying the existing ones.

When the animation has been polished the action is transferred to a raster monitor for colour and lighting. Shaded colour, even on a supercomputer, can't be generated fast enough to view in real time. First time round the polygons are assigned colours, specified by three numbers representing the blend of primary colours. They're decimals between the extremes of zero (no intensity) and one (full saturation). Graded tones are created by specifying the points of extreme difference, with the computer then supplying the transition between them.

A new frame is begun by calculating how much each object has moved since the one before. The Cray is very, very good at perspective and can determine exactly how big each of the millions of polygons is and how it is orientated, and give each one of them the right distortion. It then decides how each individual polygon should be lit, depending on its angle to any light or lights, the shape of the surface it's part of and the material it's 'made' of, metallic, matt or ceramic.

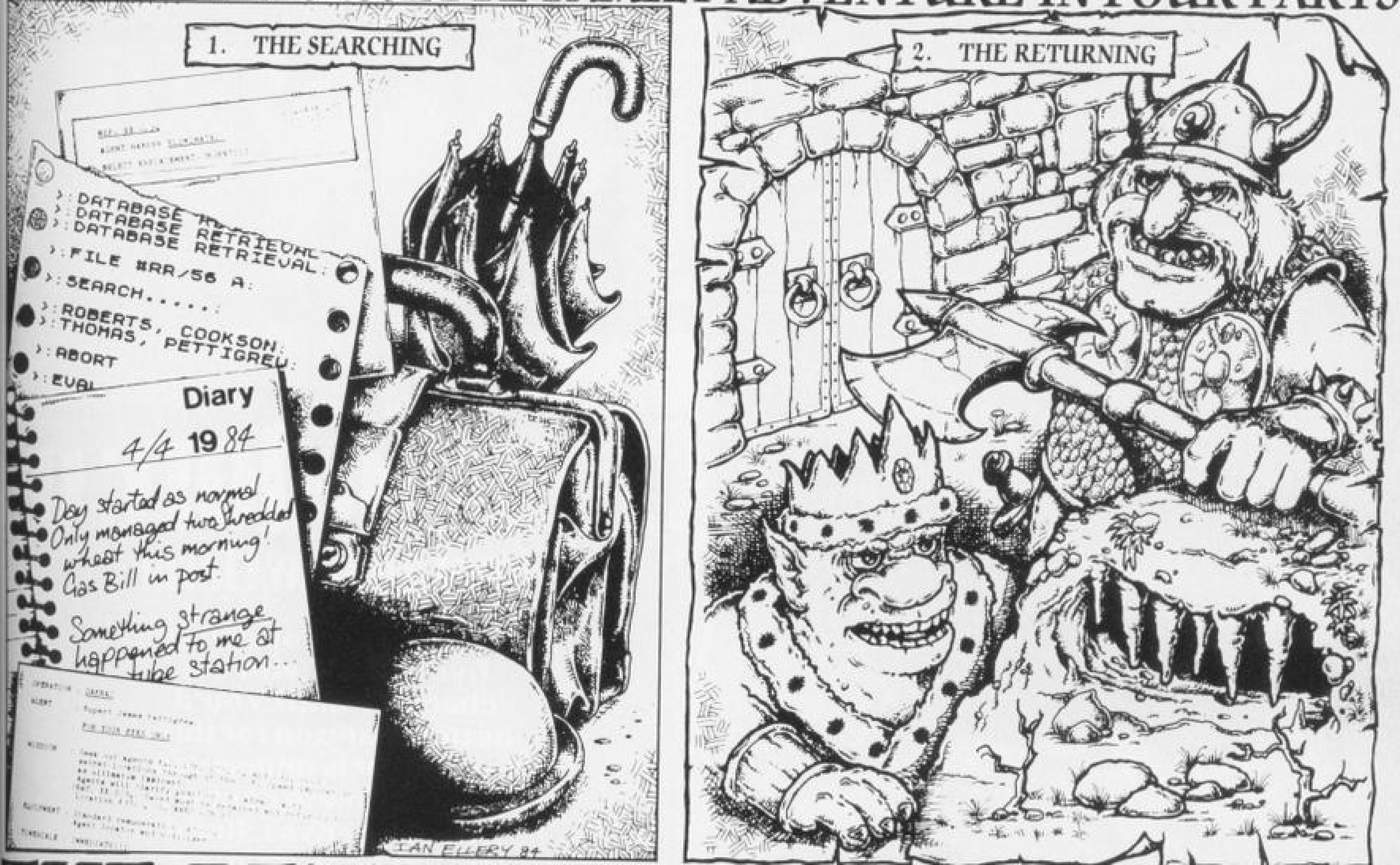
Finally the X-MP starts painting the frame, deciding the colour of each pixel. As it calculates them it stores the colour values in a frame buffer until the image is complete, which takes about 120 seconds. Finally the film recorder reads off the contents of the buffer.

The end results are astonishing (if rather super-clean), computers being incapable of anything short of perfection, despite attempts to build-in textures. First generation is more important to film makers than moviegoers, but the effect is very different from the model animation we've been used to, apart from being able to do things which would be incredibly difficult, if not impossible, any other way.

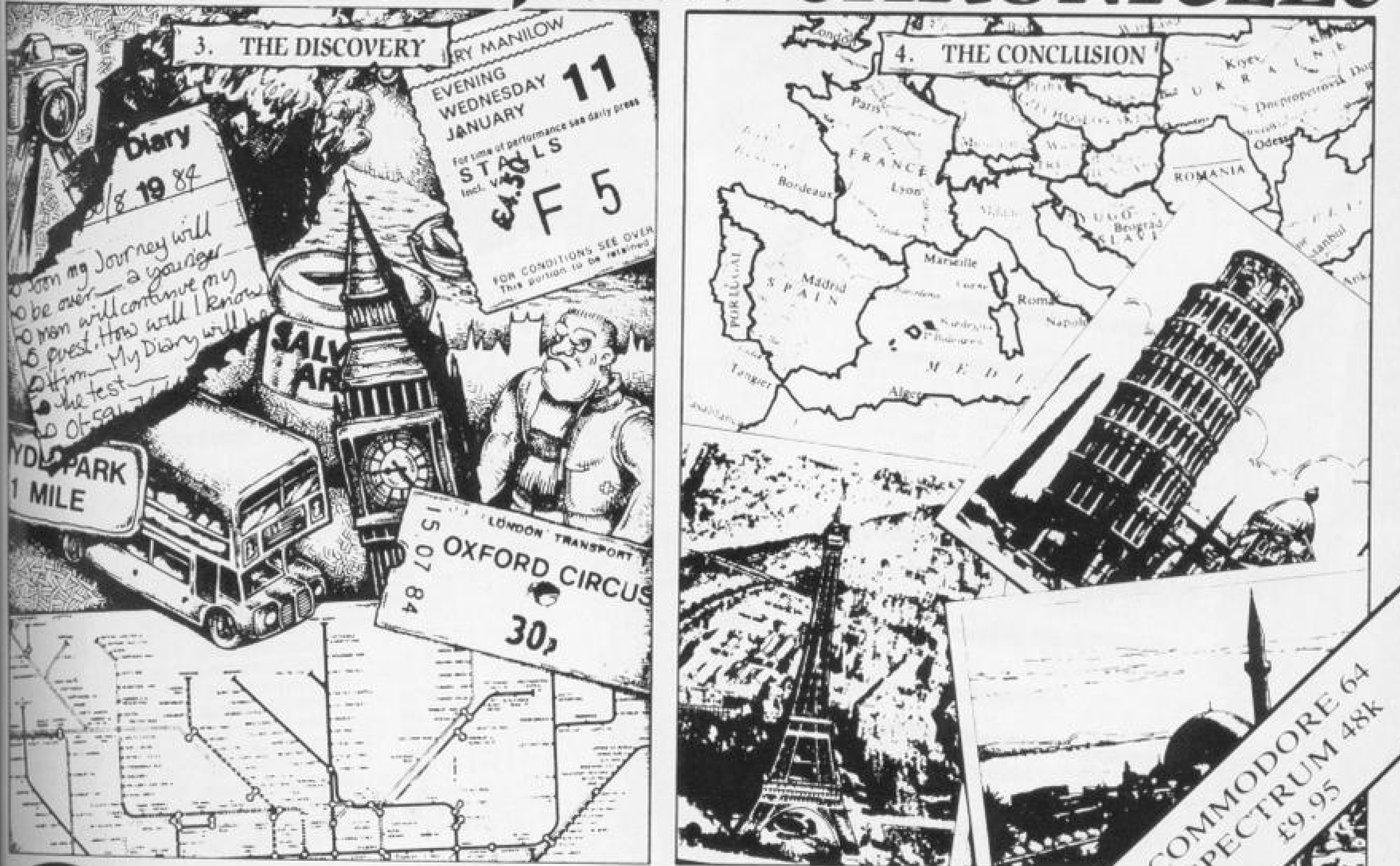
Picture Design Group, Digital Productions' parent company, dubbed 'The Total Forge' by futurist Ted Nelson in *'Dream Machines'*, were too far ahead of their time and dissolved. But now computer film making is here to stay — at $2,000 a second. Which, believe it or not, is competitive with other methods.

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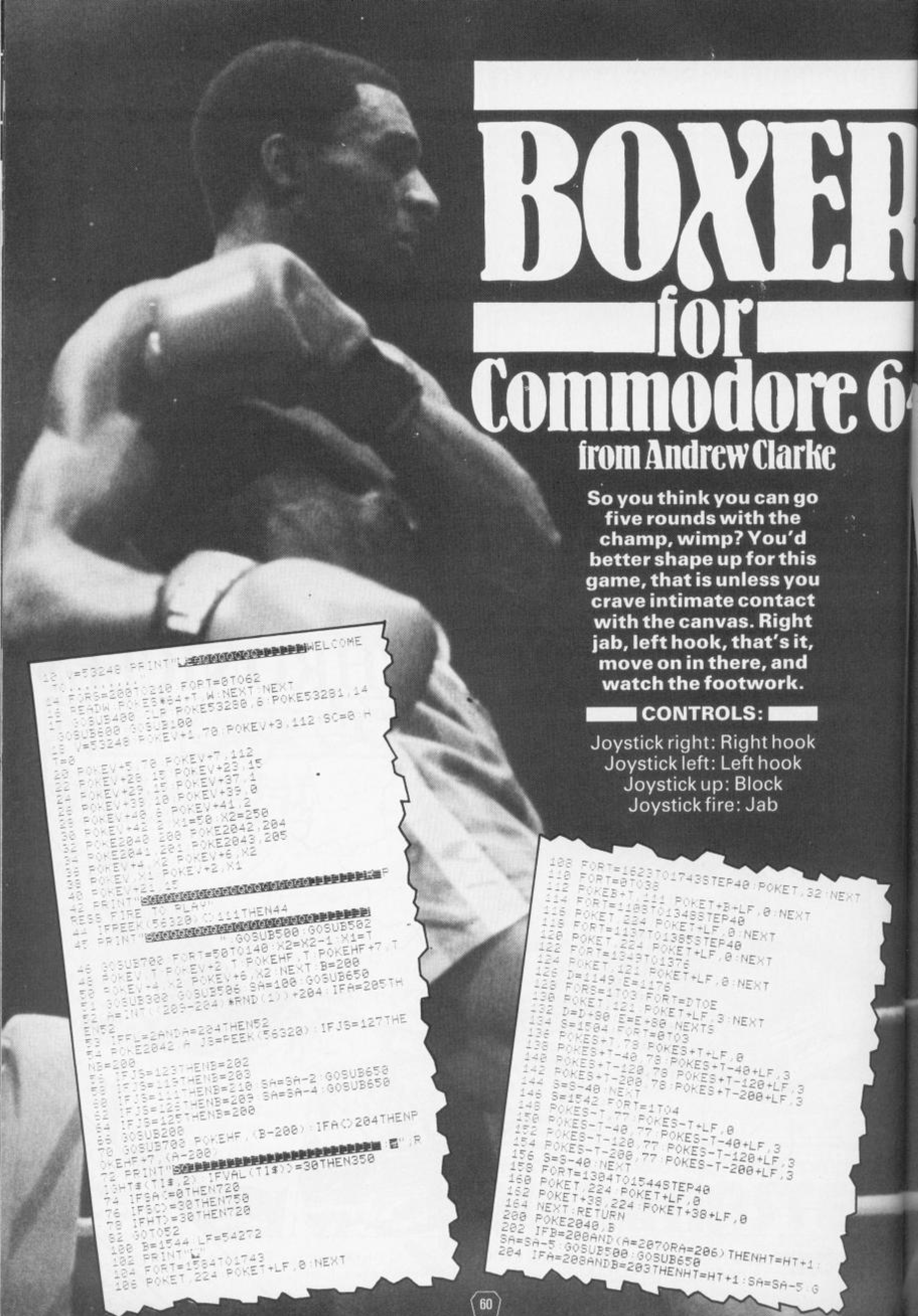
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BOXER for Commodore 64

from Andrew Clarke

So you think you can go five rounds with the champ, wimp? You'd better shape up for this game, that is unless you crave intimate contact with the canvas. Right jab, left hook, that's it, move on in there, and watch the footwork.

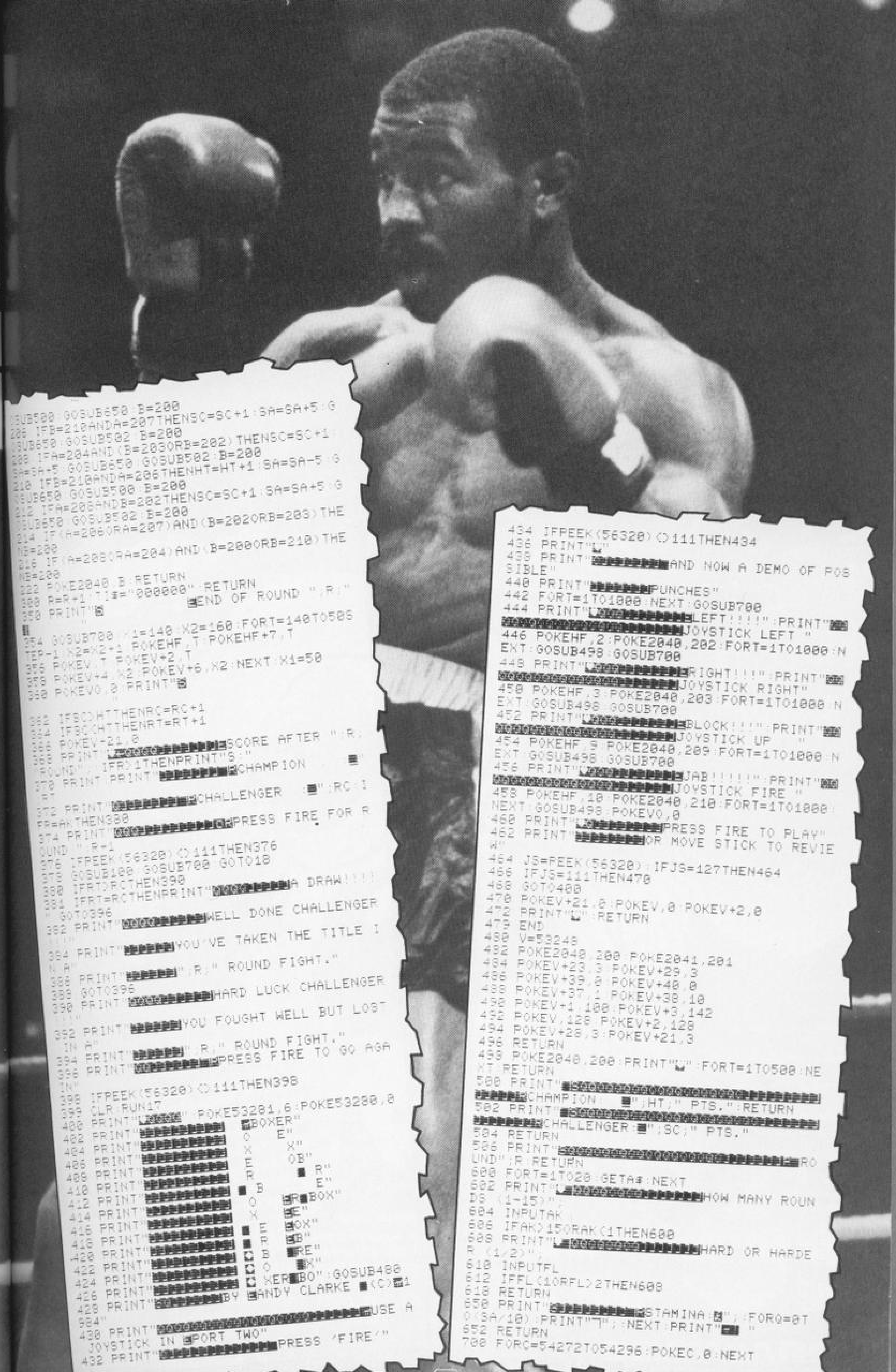
CONTROLS:

Joystick right: Right hook
Joystick left: Left hook
Joystick up: Block
Joystick fire: Jab

```
10 V=53248 PRINT"WELCOME
TO........."
14 FORS=200TO210 FORT=0TO62
16 READW POKES*64+T,W:NEXT:NEXT
17 GOSUB400 CLR POKE53280,6 POKE53281,14
 GOSUB600 GOSUB100
18 V=53248 POKEV+1,70 POKEV+3,112 SC=0 H
T=0
20 POKEV+5,70 POKEV+7,112
22 POKEV+28,15 POKEV+23,15
24 POKEV+29,15 POKEV+37,1
26 POKEV+38,10 POKEV+39,0
28 POKEV+40,6 POKEV+41,2
30 POKEV+42,2 X1=50 X2=250
32 POKE2040,200 POKE2042,204
34 POKE2041,201 POKE2043,205
36 POKEV+4,X2 POKEV+6,X2
38 POKEV,X1 POKEV+2,X1
40 POKEV+21,15                          P
42 PRINT"
RESS FIRE TO PLAY"
44 IFPEEK(56320)<>111THEN44
45 PRINT"                  ",GOSUB500 GOSUB502

46 GOSUB700 FORT=50TO140 X2=X2-1 X1=T
48 POKEV,T POKEV+2,T POKEHF,T POKEHF+7,T
50 POKEV+4,X2 POKEV+6,X2 NEXT B=200
51 GOSUB300 GOSUB506 SA=100 GOSUB650
52 A=INT((209-204)*RND(1))+204 IFA=205TH
EN52
53 IFFL=2ANDA=224THEN52
54 POKE2042,A JS=PEEK(56320) IFJS=127THE
NB=200
56 IFJS=123THENB=202
58 IFJS=119THENB=203
60 IFJS=111THENB=210 SA=SA-2 GOSUB650
62 IFJS=122THENB=209 SA=SA-4 GOSUB650
64 IFJS=125THENB=200
66 GOSUB200
70 GOSUB700 POKEHF,(B-200) IFA<>204THENP
OKEHF+7,(A-200)
72 PRINT"                    ";R
IGHT$(TI$,2) IFVAL(TI$)>=30THEN350
74 IFSA<=0THEN720
76 IFSC>=30THEN750
78 IFHT>=30THEN720
82 GOTO52
100 B=1544 LF=54272
102 PRINT""
104 FORT=1584TO1743
106 POKET,224 POKET+LF,0:NEXT
```

```
108 FORT=1623TO1743STEP40 POKET,32 NEXT
110 FORT=0TO38
112 POKEB+T,111 POKET+B+LF,0:NEXT
114 FORT=1108TO1348STEP40
116 POKET,224 POKET+LF,0:NEXT
118 FORT=1137TO1385STEP40
120 POKET,224 POKET+LF,0:NEXT
122 FORT=1349TO1376
124 POKET,121 POKET+LF,0:NEXT
126 D=1149 E=1176
128 FORS=1TO3 FORT=DTOE
130 POKET,121 POKET+LF,3 NEXT
132 D=D+80 E=E+80 NEXTS
134 S=1504 FORT=0TO3
136 POKES+T,78 POKES+T+LF,0
138 POKES+T-40,78 POKES+T-40+LF,3
140 POKES+T-120,78 POKES+T-120+LF,3
142 POKES+T-200,78 POKES+T-200+LF,3
144 S=S-40 NEXT
146 S=1542 FORT=1TO4
148 POKES-T,77 POKES-T+LF,0
150 POKES-T-40,77 POKES-T-40+LF,3
152 POKES-T-120,77 POKES-T-120+LF,3
154 POKES-T-200,77 POKES-T-200+LF,3
156 S=S-40 NEXT
158 FORT=1304TO1544STEP40
160 POKET,224 POKET+LF,0
162 POKET+38,224 POKET+38+LF,0
164 NEXT RETURN
200 POKE2040,B
202 IFB=200AND(A=207ORA=206)THENHT=HT+1
SA=SA-5 GOSUB500 GOSUB650
204 IFA=208ANDB=203THENHT=HT+1 SA=SA-5 G
```



```
OSUB500:GOSUB650:B=200
206 IFB=210ANDA=207THENSC=SC+1:SA=SA+5:G
OSUB650:GOSUB502:B=200
208 IFA=204AND(B=203ORB=202)THENSC=SC+1:
SA=SA-5:GOSUB650:GOSUB502:B=200
210 IFB=210ANDA=206THENHT=HT+1:SA=SA-5:G
OSUB650:GOSUB500:B=200
212 IFA=208ANDB=202THENSC=SC+1:SA=SA+5:G
OSUB650:GOSUB502:B=200
214 IF(A=206ORA=207)AND(B=202ORB=203)THE
NB=200
216 IF(A=208ORA=204)AND(B=200ORB=210)THE
NB=200
222 POKE2040,B:RETURN
300 R=R+1:TI$="000000":RETURN
350 PRINT"                    END OF ROUND ";R;"
"
354 GOSUB700:X1=140:X2=160:FORT=140TO50S
TEP-1:X2=X2+1:POKEHF,T:POKEHF+7,T
356 POKEV,T:POKEV+2,T
358 POKEV+4,X2:POKEV+6,X2:NEXT:X1=50
360 POKEV0,0:PRINT"
"
362 IFSC>HTTHENRC=RC+1
364 IFSC<HTTHENRT=RT+1
366 POKEV+21,0
368 PRINT"SCORE AFTER ";R;"
ROUND";:IFR>1THENPRINT"S:"
370 PRINT:PRINT"CHAMPION     ";RC:I
RT
372 PRINT"CHALLENGER  ";RC:I
FR=AKTHEN380
374 PRINT"PRESS FIRE FOR R
OUND ";R-1
376 IFPEEK(56320)<>111THEN376
378 GOSUB100:GOSUB700:GOTO18
380 IFRT>RCTHEN390
381 IFRT=RCTHENPRINT"A DRAW!!!!
":GOTO396
382 PRINT"WELL DONE CHALLENGER
!!!"
384 PRINT"YOU'VE TAKEN THE TITLE I
N A"
386 PRINT"";R;" ROUND FIGHT."
388 GOTO396
390 PRINT"HARD LUCK CHALLENGER
!!!"
392 PRINT"YOU FOUGHT WELL BUT LOST
 IN A"
394 PRINT"";R;" ROUND FIGHT."
396 PRINT"PRESS FIRE TO GO AGA
IN"
398 IFPEEK(56320)<>111THEN398
399 CLR:RUN17
400 PRINT"":POKE53281,6:POKE53280,0
402 PRINT"            BOXER"
404 PRINT"            O    E"
406 PRINT"            X     X"
408 PRINT"            E     OB"
409 PRINT"            R       R"
410 PRINT"             B      E"
412 PRINT"             O    R BOX"
414 PRINT"             X    E"
416 PRINT"              E   OX"
418 PRINT"              R   B"
420 PRINT"              B   RE"
422 PRINT"              O   X"
424 PRINT"              XER BO":GOSUB480
426 PRINT"BY ANDY CLARKE (C)1
984"
428 PRINT"USE A
 JOYSTICK IN PORT TWO"
430 PRINT"PRESS 'FIRE'"
432 PRINT"
```

```
434 IFPEEK(56320)<>111THEN434
436 PRINT""
438 PRINT"AND NOW A DEMO OF POS
SIBLE"
440 PRINT"PUNCHES"
442 FORT=1TO1000:NEXT:GOSUB700
444 PRINT"LEFT!!!!":PRINT"
JOYSTICK LEFT "
446 POKEHF,2:POKE2040,202:FORT=1TO1000:N
EXT:GOSUB498:GOSUB700
448 PRINT"RIGHT!!!":PRINT"
JOYSTICK RIGHT"
450 POKEHF,3:POKE2040,203:FORT=1TO1000:N
EXT:GOSUB498:GOSUB700
452 PRINT"BLOCK!!!":PRINT"
JOYSTICK UP    "
454 POKEHF,9:POKE2040,209:FORT=1TO1000:N
EXT:GOSUB498:GOSUB700
456 PRINT"JAB!!!!":PRINT"
JOYSTICK FIRE  "
458 POKEHF,10:POKE2040,210:FORT=1TO1000:
NEXT:GOSUB498:POKEV0,0
460 PRINT"PRESS FIRE TO PLAY"
462 PRINT"OR MOVE STICK TO REVIE
W"
464 JS=PEEK(56320):IFJS=127THEN464
466 IFJS=111THEN470
468 GOTO400
470 POKEV+21,0:POKEV,0:POKEV+2,0
472 PRINT"":RETURN
479 END
480 V=53248
482 POKE2040,200:POKE2041,201
484 POKEV+23,3:POKEV+29,3
486 POKEV+39,0:POKEV+40,0
488 POKEV+37,1:POKEV+38,10
490 POKEV+1,100:POKEV+3,142
492 POKEV,128:POKEV+2,128
494 POKEV+28,3:POKEV+21,3
496 RETURN
498 POKE2040,200:PRINT"":FORT=1TO500:NE
XT:RETURN
500 PRINT"
CHAMPION:  ";HT;" PTS.":RETURN
502 PRINT"
CHALLENGER:";SC;" PTS."
504 RETURN
506 PRINT"RO
UND";R:RETURN
600 FORT=1TO20:GETA$:NEXT
602 PRINT"HOW MANY ROUN
DS (1-15)";
604 INPUTAK
606 IFAK>15ORAK<1THEN600
608 PRINT"HARD OR HARDE
R (1/2)";
610 INPUTFL
612 IFFL<1ORFL>2THEN608
618 RETURN
650 PRINT"STAMINA:";:FORQ=0T
O(SA/10):PRINT"7";:NEXT:PRINT" "
652 RETURN
700 FORC=54272TO54296:POKEC,0:NEXT
```


Continued overleaf

BOXING for CBM 64



Continued from overleaf

```
702 VO=54296:AT=54277:SU=54278
704 WA=54276:HF=54273:LF=54272
706 POKEAT,9:POKESU,9:POKEWA,65
708 POKEAT+7,9:POKESU+7,9:POKEWA+7,65
710 POKELF+10,8:POKELF+3,8:POKEVO,15:RET
URN
720 FORC=54272TO54296:POKEC,0:NEXT
722 VO=54296:AT=54277:SU=54278
724 WA=54276:HF=54273:LF=54272
726 POKEAT,32:POKESU,255:POKEWA,21
728 POKEHF+14,20:POKEVO,143
730 PRINT"■■■■■■■■KNOCK-OUT!!!!!!!"
732 PRINT"■■■■■■■■IN ROUND ";R
734 FORT=140TO50STEP-1
736 POKEV,T:POKEV+2,T:POKEHF,T:POKEV+39
,T:POKEV+40,T:FORK=1TO10:NEXT
738 NEXT:FORC=54272TO54296
740 POKEC,0:NEXT:PRINT"■"
742 POKEV+21,0:GOTO390
750 FORC=54272TO54296:POKEC,0:NEXT
752 VO=54296:AT=54277:SU=54278
754 WA=54276:HF=54273:LF=54272
756 POKEAT,32:POKESU,255:POKEWA,21
758 POKEHF+14,20:POKEVO,143
760 PRINT"■■■■■■■■KNOCK-OUT!!!!!!!"
762 PRINT"■■■■■■■■IN ROUND ";R
764 FORT=160TO250
766 POKEV+4,T:POKEV+6,T:POKEHF,T:POKEV+4
1,T:POKEV+42,T:FORK=1TO10:NEXT
768 NEXT:FORC=54272TO54296
770 POKEC,0:NEXT:PRINT"■"
772 POKEV+21,0:GOTO382
30000 REM****BOXER #1 (NORM)
30001 DATA42,128,0,42,192,0,43
30002 DATA192,0,47,240,0,47,192
30003 DATA0,63,192,0,15,0,0
30004 DATA15,0,0,21,64,0,21
30005 DATA80,0,21,80,0,21,80
30006 DATA0,31,80,0,31,80,160
30007 DATA31,254,160,31,254,160,21
30008 DATA80,160,21,80,0,21,80
30009 DATA0,21,80,0,21,64,0
30010 REM****BOXER #1 (LEGS)
30011 DATA42,128,0,42,128,0,42
30012 DATA128,0,42,128,0,42,128
30013 DATA0,42,128,0,60,0,0
30014 DATA60,0,0,60,0,0,60
30015 DATA0,60,0,0,60,0
30016 DATA0,60,0,0,20,0,0
30017 DATA20,0,0,20,0,0,20
30018 DATA0,0,20,0,0,42,0
30019 DATA0,42,160,0,42,160,0
30020 REM****BOXER #1 (LEFT ARM)
30021 DATA42,128,0,42,192,0,43
30022 DATA192,0,47,240,0,47,192
30023 DATA0,63,192,10,15,0,42
30024 DATA15,0,234,21,87,250,21
30025 DATA85,192,31,95,0,31,92
30026 DATA0,31,80,0,31,80,160
30027 DATA31,254,160,31,254,160,21
30028 DATA80,160,21,80,0,21,80
30029 DATA0,21,80,0,21,64,0
30040 REM****BOXER #1 (RIGHT ARM
30041 DATA42,128,0,42,192,0,43
30042 DATA192,0,47,240,0,47,192
30043 DATA10,63,192,42,15,0,234
30044 DATA15,3,250,21,127,192,23
30045 DATA255,0,31,252,0,31,240
30046 DATA0,21,208,0,21,80,0
30047 DATA21,80,0,21,80,0,21
30048 DATA80,0,21,80,0,21,80
30049 DATA0,21,80,0,21,64,0
30050 REM****BOXER #2 (NORM)
30051 DATA0,2,168,0,3,248,0
30052 DATA2,252,0,15,252,0,3
30053 DATA252,0,3,252,0,0,240
30054 DATA0,0,240,0,2,168,0
30055 DATA10,168,0,10,248,0,10
30056 DATA248,5,10,248,5,10,248
30057 DATA5,127,248,5,127,248,5
30058 DATA10,168,0,10,168,0,10
30059 DATA168,0,10,168,0,2,168
30060 REM****BOXER #2 (LEGS)
```

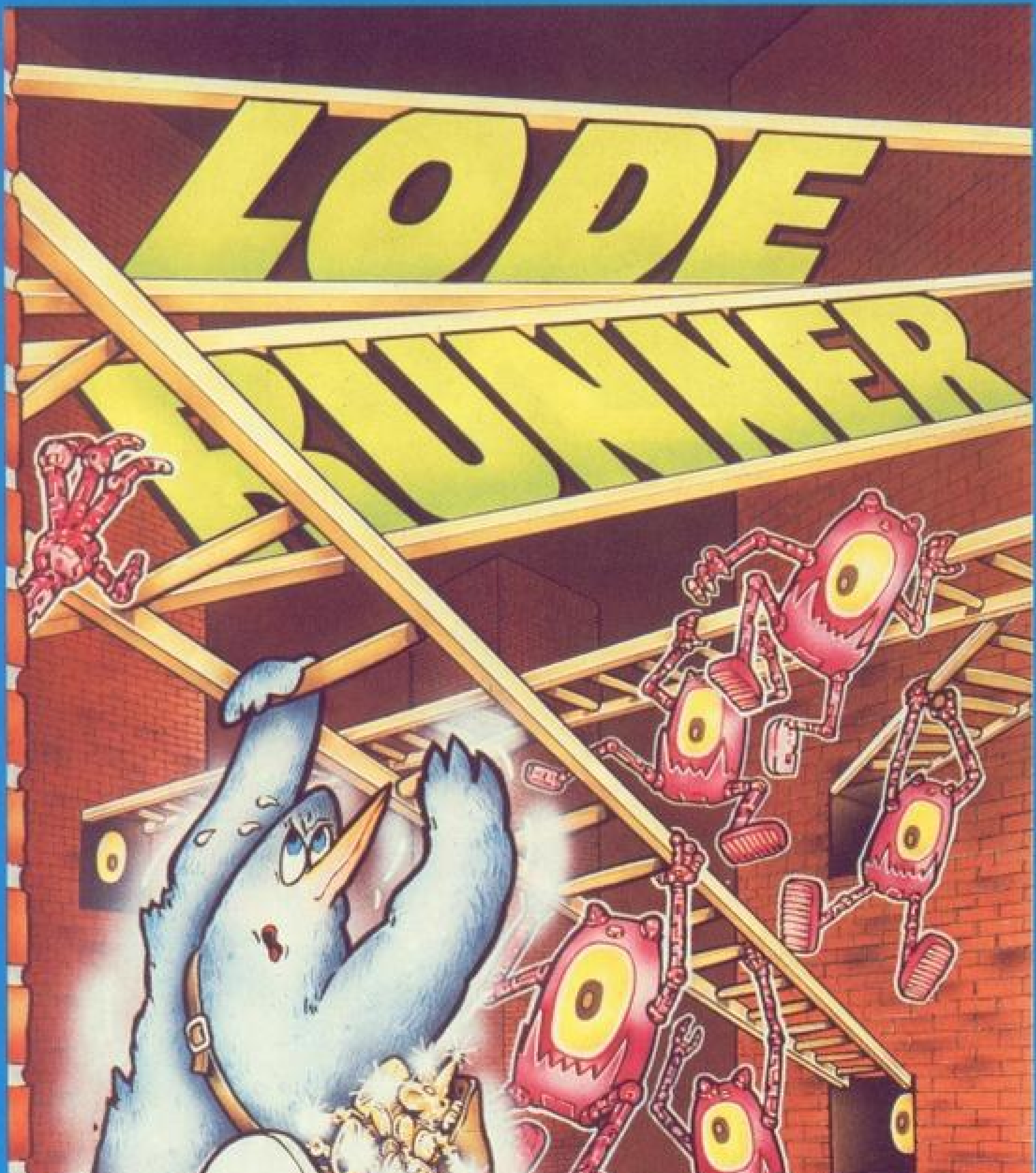
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30061 DATA0,1,100,0,1,100,0
30062 DATA1,100,0,1,100,0,1
30063 DATA100,0,1,100,0,0,60
30064 DATA0,0,60,0,0,60,0
30065 DATA60,0,0,0,60,0,0
30066 DATA0,0,0,60,0,0,20
30067 DATA0,0,0,20,0,0
30068 DATA0,20,0,0,20,0,0
30069 DATA168,0,10,168,0,10,168
30070 REM*****BOXER #2 (RIGHT ARM)
30071 DATA0,2,168,0,3,248,0
30072 DATA42,252,0,15,252,0,3
30073 DATA252,0,1,252,80,0,240
30074 DATA85,0,240,87,254,168,83
30075 DATA252,168,0,250,248,0,58
30076 DATA248,0,10,248,5,10,240
30077 DATA5,127,248,5,127,248,5
30078 DATA10,168,0,10,168,0,10
30079 DATA168,0,10,168,0,2,168
30080 REM*****BOXER #2 (LEFT ARM)
30081 DATA0,2,168,0,3,248,0
30082 DATA2,252,0,15,252,0,3
30083 DATA252,80,3,252,87,0,240
30084 DATA87,192,240,83,254,168,0
30085 DATA255,168,0,80,248,0,15
30086 DATA248,0,11,248,0,10,248
30087 DATA0,10,168,0,10,168,0
30088 DATA10,168,0,10,168,0,10
30089 DATA168,0,10,168,0,2,168
30090 REM*****BOXER #2 (UPPERCUT)
30091 DATA0,2,168,0,3,248,0
30092 DATA2,252,0,15,252,0,3
30093 DATA252,0,3,252,0,0,240
30094 DATA0,0,240,0,2,168,0
30095 DATA10,168,0,10,248,0,11
30096 DATA248,0,11,232,80,15,232
30097 DATA87,255,232,87,255,168,80
30098 DATA10,168,0,10,168,0,10
30099 DATA168,0,10,168,0,2,168
30100 REM******BOXER#1 (BLOCK)
30101 DATA42,128,0,42,192,0,43
30102 DATA192,0,47,250,160,47,202
30103 DATA160,63,202,160,15,2,128
30104 DATA15,3,192,21,87,192,21
30105 DATA85,192,21,255,192,31,255
30106 DATA192,31,255,0,21,80,0
30107 DATA20,80,0,21,80,0,21
30108 DATA80,0,21,80,0,21,80
30109 DATA0,21,80,0,21,64,0
30110 REM******BOXER#1 (JAB)
30111 DATA42,128,0,42,192,0,43
30112 DATA192,0,47,240,0,47,192
30113 DATA0,63,192,0,15,0,0
30114 DATA15,0,0,21,64,0,21
30115 DATA80,0,31,80,0,31,80
30116 DATA0,31,208,0,23,240,10
30117 DATA21,255,234,21,127,234,21
30118 DATA80,10,21,80,0,21,80
30119 DATA0,21,80,0,21,64,0

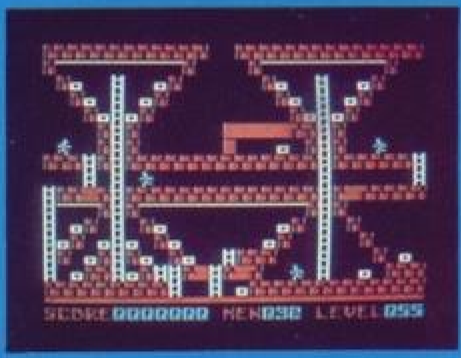
READY.
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For your free inlay card see page 122

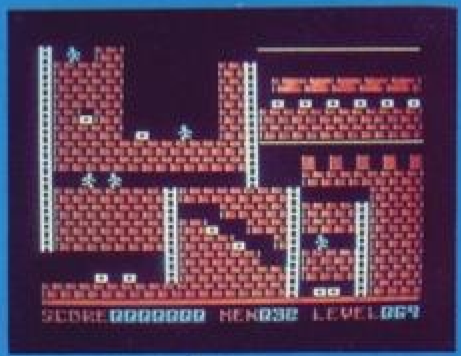


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You are a highly trained Galactic Commando deep in enemy territory. Power hungry leaders of the repressive Bungeling Empire have stolen a fortune in gold from the peace loving people, and you have just discovered their secret underground treasury. Your goal? To recover every last ingot of Bungeling booty. You'll be running, jumping and climbing heroically, solving perplexing puzzles and drilling passageways through stone floors and barriers using your laser drill pistol. You'll need more than fleet feet and good looks to get through this mission alive. You'll need quick wits and brains!

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Available on the 48K Spectrum

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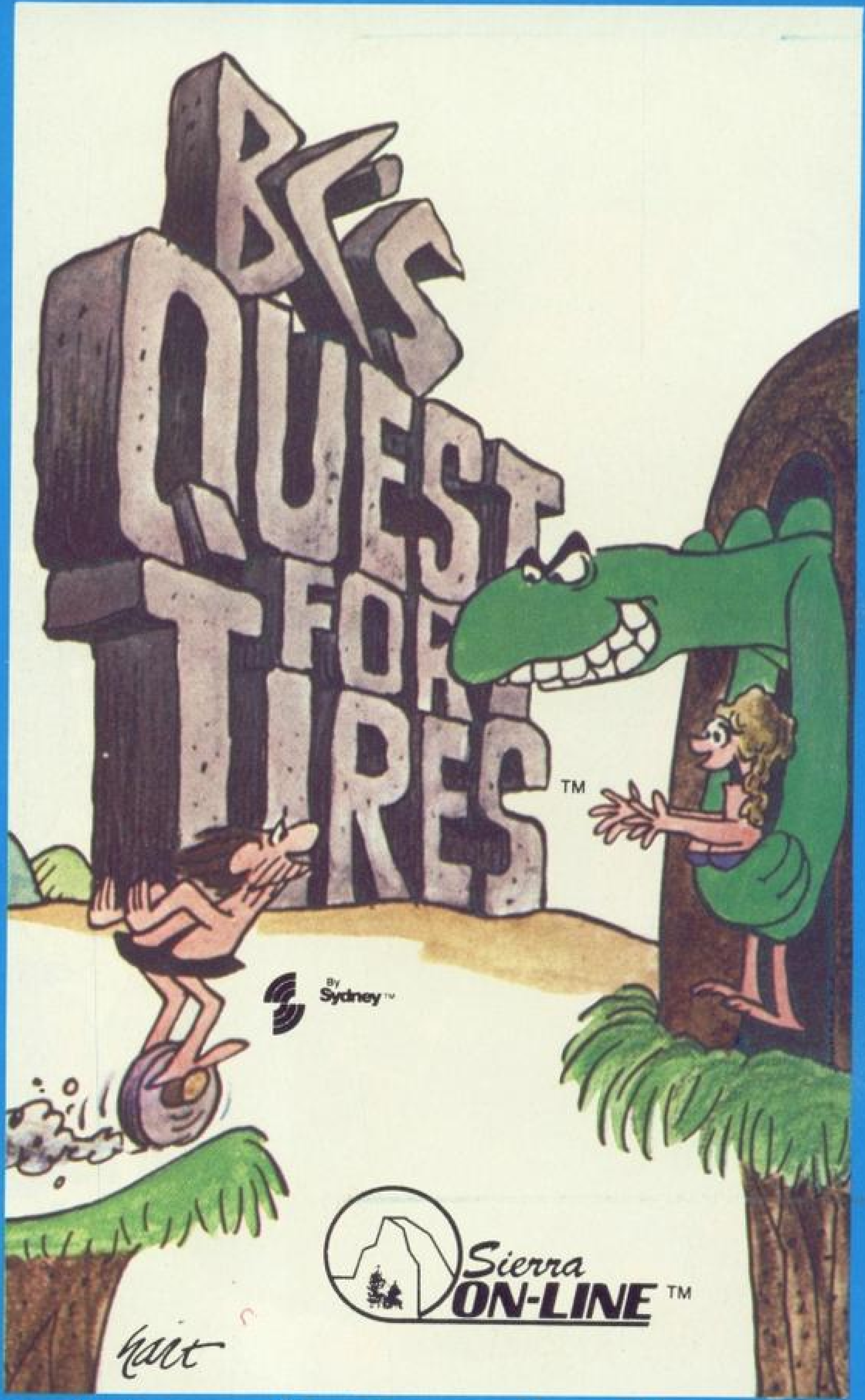


Can Thor save Cute Chick from the hungry dinosaur? Only you can help. At first he only has to jump rocks and holes. Then he must jump and duck, almost simultaneously, to avoid the logs and low hanging tree limbs in the Petrified Forest. The only way Thor can get across the river is to hop on the turtles' backs. These turtles sometimes get tired and submerge at the wrong moment, much to Thor's dismay! To add to Thor's difficulties, his arch-enemy Fat Broad is waiting on the other side to ambush him. If Thor's timing is good, the Dooky Bird is overhead, the prehistoric bird will pick him up and carry him across!

Thor must build up plenty of speed during his downhill run before the cliff. Timing is crucial, too. If Thor's balance is off or he is too slow he will crash into the ravine or the face of the cliff. Once over the cliff, Thor faces his most difficult challenge: the volcanic eruption. In addition to the obstacles on the ground, he is showered with boulders from the sky.

Once again Thor must cross the river on the turtles' backs. Then, at last, he must face the dinosaur! If Thor can get past the dinosaur and into the cave, he has only a short way to go to rescue Cute Chick. On his way, Thor must duck under stalagtites and jump over stalagmites to avoid crashing.

If Thor does crash, don't worry: he has five wheels. But True Love is calling him, so use all your agility and cunning to help him rescue Cute Chick!



Available on the Commodore 64

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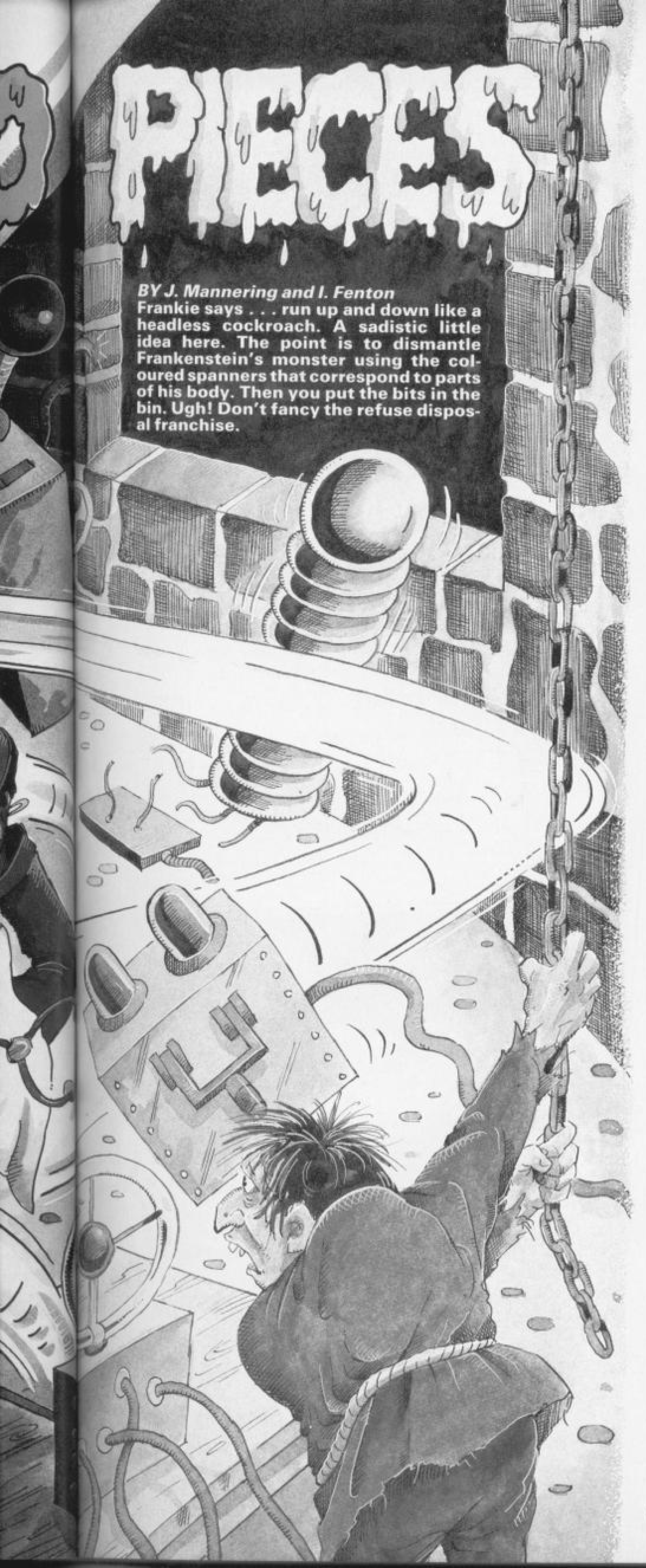
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FRANKIE GOES TO



BY J. Mannering and I. Fenton

Frankie says . . . run up and down like a headless cockroach. A sadistic little idea here. The point is to dismantle Frankenstein's monster using the coloured spanners that correspond to parts of his body. Then you put the bits in the bin. Ugh! Don't fancy the refuse disposal franchise.

For Spectrum 48K

Controls:
Q or P : UP
A or L : DOWN
Z or N : LEFT
X or M : RIGHT

```
   1 REM frankie
   2 LET high=0
   3 RESTORE
   5 LET score=0: LET lives=3: L
ET time=200
  10 FOR n=0 TO 7: READ a: POKE
USR "▚"+n,a: NEXT n: DATA 60,126
,60,60,24,255,189,189
  20 FOR n=0 TO 7: READ a: POKE
USR "Л"+n,a: NEXT n: DATA 189,18
9,60,36,36,36,36,231
  25 FOR n=0 TO 7: READ a: POKE
USR "▄"+n,a: NEXT n: DATA 0,0,0,
16,122,95,127,127
  27 FOR n=0 TO 7: READ a: POKE
USR "▙"+n,a: NEXT n: DATA 192,19
2,192,192,255,255,255,255
  30 FOR n=0 TO 7: READ a: POKE
USR "▁"+n,a: NEXT n: DATA 0,0,0,
0,128,128,255,255
  35 FOR n=0 TO 7: READ a: POKE
USR "▟"+n,a: NEXT n: DATA 0,0,0,
3,3,3,255,255
  37 FOR n=0 TO 7: READ a: POKE
USR "▘"+n,a: NEXT n: DATA 0,240,
208,248,240,224,240,224
  40 FOR n=0 TO 7: READ a: POKE
USR "▛"+n,a: NEXT n: DATA 255,25
5,240,240,240,240,240,240
  45 FOR n=0 TO 7: READ a: POKE
USR "▌"+n,a: NEXT n: DATA 240,19
2,192,192,192,192,192,192
  47 FOR n=0 TO 7: READ a: POKE
USR "▙"+n,a: NEXT n: DATA 192,19
2,192,192,192,192,248,248
  50 FOR n=0 TO 7: READ a: POKE
USR "⋈"+n,a: NEXT n: DATA 0,0,0,
195,126,195,0,0
  60 FOR n=0 TO 7: READ a: POKE
USR "╤"+n,a: NEXT n: DATA 255,8,
8,8,255,64,64,64
 100 BORDER 5: PAPER 5: INK 0: C
LS
 110 PRINT AT 1,5;"FRANKIE GOES
TO PIECES"
 120 FOR n=5 TO 26: PRINT AT 1,n
; INK 2; OVER 1;"_": NEXT n
 125 BEEP 1,0: BEEP 1,2: BEEP .5
,3: BEEP .5,2: BEEP 1,0
 130 PRINT AT 21,1;"BY J.MANNERI
NG AND I.FENTON"
 135 BEEP 1,3: BEEP 1,5: BEEP 2,
7
 140 PRINT AT 4,8; PAPER 6; INK
1;"PRESS S TO START"
 143 BEEP .75,7: BEEP .25,8: BEE
P .5,7: BEEP .5,5: BEEP .5,3: BE
EP .5,2: BEEP 1,0
 145 PRINT AT 6,3; PAPER 6; INK
1;"PRESS I FOR INSTRUCTIONS"
 147 BEEP 1,0: BEEP 1,-5: BEEP 2
,0
 150 PRINT AT 10,15;"▘";AT 11,15
;"▛";AT 12,15;"▌▚";AT 13,15;"▙
Л"
 155 BEEP 1,0: BEEP 1,-5: BEEP 2
,0
 160 IF INKEY$="s" OR INKEY$="S"
 THEN GO TO 300
 170 IF INKEY$="i" OR INKEY$="I"
 THEN GO TO 200
 180 GO TO 160
 200 BORDER 1: PAPER 1: INK 7: C
LS
 220 PRINT "GUTEN TAG!!  I am ze
 vorld       famous Dr.Frankenste
in.I am in  need of a little hel
p.Frankie   (my creation) is bei
ng a pain in ze neck! You must g
uide me      round my laboratory,
picking up  ze coloured spanners
 zat         correspond to ze pie
ce of        Frankie."
 225 PRINT "Venn you have collec
ted a piece  of him,put it in ze
 bin by       simply  valking into
 it.You must hurry  because Fran
kie vill     vake up venn ze time
r reaches    zero"''TAB 11;"Guten
 Luck!!"
 230 PRINT '"KEYS:-"'"Q or P - U
P"'"A or L - DOWN"'"Z or N - LEF
T"'"X or M - RIGHT": PRINT #0;TA
B 8;"PRESS S TO START"
 235 IF INKEY$="s" OR INKEY$="S"
 THEN GO TO 300
 240 GO TO 235
 300 BORDER 0: PAPER 7: INK 0: C
LS
 305 LET a$="▄": LET b$="▙": LET
 c$="▁": LET d$="▟": LET q$="▚":
 LET x$="Л"
 315 LET tt=time: LET a=3: LET b
=28: LET c=4: LET i=0
 320 LET z=0
 325 FOR n=0 TO 21: PRINT AT n,9
; INK 6; PAPER 2;"╤": NEXT n
 326 FOR n=10 TO 31: PRINT AT 0,
n; INK 6; PAPER 2;"╤": NEXT n
 327 FOR n=17 TO 25: PRINT AT 20
,n;"█";AT 21,n;"█": NEXT n
 328 FOR n=0 TO 16: PRINT AT n,3
1; INK 6; PAPER 2;"╤": NEXT n
 330 FOR y=10 TO 16: FOR x=18 TO
 21: PRINT AT x,y; INK 6; PAPER
2;"╤": NEXT x: NEXT y
 335 FOR x=17 TO 21: FOR y=26 TO
 31: PRINT AT x,y; INK 6; PAPER
2;"╤": NEXT y: NEXT x
 337 PRINT AT 19,27;"BIN"
 342 PRINT AT 17,11; INK 1;a$; I
NK 2;b$; INK 3;c$; INK 4;d$
```

Continues over page

FRANKIE GOES TO PIECES

From Previous Page

```
 343 PRINT AT 17,26; INK 6; PAPE
R 2;"TTTTTT"
 344 PRINT AT a,b; INK i;q$;AT c
,b; INK i;x$
 345 PRINT AT 16,21; INK 1;"⊢";A
T 6,29; INK 2;"⊢";AT 4,11; INK 3
;"⊢";AT 10,17; INK 4;"⊢"
 346 IF a<3 OR c<4 THEN PRINT AT
2,b;" ": LET a=a+1: IF a<3 OR c
<4 THEN LET c=c+1
 347 IF c>16 OR a>15 THEN PRINT
AT 17,b;" ": LET a=a-1: IF c>16
OR a>15 THEN LET c=c-1
 348 IF b>28 THEN PRINT AT a,b;"
";AT a,31; INK 6; PAPER 2;"I":
IF b>28 THEN PRINT AT c,b;" ": LET b
c,31; INK 6; PAPER 2;"I": LET b
=b-1
 349 IF b<11 THEN PRINT AT a,10;
" ": IF b<11 THEN PRINT AT c,10;
" ": LET b=b+1
 350 IF i<1 AND (c>16) AND (b<15
) THEN GO TO 342
 351 IF c=16 THEN PRINT AT 17,b;
" ";AT 17,b+1;" ": IF c=16 THEN
PRINT AT 17,b;" ";AT 17,b+1;" "
 352 IF i<>1 AND c=16 THEN PRINT
AT 17,11; INK 1;a$: IF i<>2 AND
c=16 THEN PRINT AT 17,12; INK 2
;b$: IF i<>3 AND c=16 THEN PRINT
AT 17,13; INK 3;c$: IF i<>4 AND
c=16 THEN PRINT AT 17,14; INK 4
;d$
 353 IF INKEY$="q" OR INKEY$="Q"
OR INKEY$="p" OR INKEY$="P" THE
N PRINT AT a,b;" ";AT c,b;" ";AT
a,b+1;" ";AT c,b+1;" ": LET a=a
-1: LET c=c-1
 355 IF INKEY$="a" OR INKEY$="A"
OR INKEY$="l" OR INKEY$="L" THE
N PRINT AT a,b;" ";AT c,b;" ": L
ET a=a+1: LET c=c+1
 356 IF INKEY$="z" OR INKEY$="Z"
OR INKEY$="n" OR INKEY$="N" THE
N PRINT AT a,b;" ";AT c,b;" ": L
ET b=b-1
 360 IF INKEY$="x" OR INKEY$="X"
OR INKEY$="m" OR INKEY$="M" THE
N PRINT AT a,b;" ";AT c,b;" ": L
ET b=b+1
 365 PRINT AT 3,0;"LIVES: ";lives
;AT 8,0;"TIME: ";tt;" ";AT 13,0;"
SCORE: ";score;AT 18,0;"HIGH: ";hi
gh
 366 IF b>=27 THEN PRINT AT c,31
; INK 6; PAPER 2;"I"
 367 IF c=17 AND b=11 AND a$=" "
THEN GO TO 343: IF c=17 AND b=1
2 AND b$=" " THEN GO TO 343: IF
c=17 AND b=13 AND c$=" " THEN GO
TO 343: IF c=17 AND b=14 AND d$
=" " THEN GO TO 343
 370 IF (a=16 AND b=21) OR (c=16
AND b=21) THEN LET i=1
 375 IF (a=6 AND b=29) OR (c=6 A
ND b=29) THEN LET i=2
 380 IF (a=4 AND b=11) OR (c=4 A
ND b=11) THEN LET i=3
 385 IF (a=10 AND b=17) OR (c=10
AND b=17) THEN LET i=4
 390 IF i=1 AND c=17 AND b=11 AN
D x$="π" THEN PRINT AT c,b;" ":
LET q$="■ ": LET x$="π■": LET a
$=" ": BEEP .5,-10: LET a=15: LE
T c=16: LET b=15: GO TO 343
```

```
 395 IF i=2 AND c=17 AND b=12 AN
D x$="π" THEN PRINT AT c,b;" ":
LET q$="■ ": LET x$="π■": LET b
$=" ": BEEP .5,-10: LET a=15: LE
T c=16: LET b=15: GO TO 343
 400 IF i=3 AND c=17 AND b=13 AN
D x$="π" THEN PRINT AT c,b;" ":
LET q$="■ ": LET x$="π■": LET c
$=" ": BEEP .5,-10: LET a=15: LE
T c=16: LET b=15: GO TO 343
 405 IF i=4 AND c=17 AND b=14 AN
D x$="π" THEN PRINT AT c,b;" ":
LET q$="■ ": LET x$="π■": LET d
$=" ": BEEP .5,-10: LET a=15: LE
T c=16: LET b=15: GO TO 343
 410 IF c=17 AND b>25 AND q$="■
" THEN LET z=z+1: LET q$="■": LE
T x$="π": PRINT AT c,b+1: IF z=4
THEN GO TO 1000
 415 LET tt=tt-1: IF tt<0 THEN L
ET lives=lives-1: IF lives<1 THE
N GO TO 2000
 416 IF tt<0 THEN BEEP 1,10: LET
tt=time: GO TO 1500
 430 GO TO 342
1000 CLS : PRINT AT 3,8; INK 2;"
CONGRATULATIONS";AT 9,0;"You hav
e succeeded in taking    Frankie
 apart and disposing of  him vel
l.However,due to zis     program
mers varped mind,you     must  r
epeat ze task in less    time!!"
1005 PRINT AT 21,4;"PRESS ANY KE
Y TO RE-START"
1010 LET time=time-10
1015 LET score=score+1
1020 PAUSE 0: GO TO 300
1500 CLS : PRINT AT 10,0;"OOPS!!
 You have lost one of your lives
.At zis rate,I vill never get ri
d of my monster."''TAB 5;"NOW BU
CK YOUR IDEAS UP"
1510 PRINT AT 21,4;"PRESS ANY KE
Y TO RE-START"
1520 PAUSE 0: GO TO 300
2000 CLS : PRINT AT 5,12;"YOU ID
IOT!";AT 10,0;"You have lost all
 your lives.You are useless.For
not helping me,you   shall be sen
t back to ze      title- page.I hop
e ze next         person is   bette
r zan you!!"
2010 PRINT AT 21,2;"PRESS ANY KE
Y FOR PUNISHMENT"
2020 IF score>high THEN LET high
=score
2030 PAUSE 0: GO TO 3000
3000 BORDER 4: PAPER 4: INK 0: C
LS
3005 LET f=1
3010 PRINT AT 9,16;"■";AT 10,16;
"π"
3015 RESTORE 3050
3020 BORDER RND*7: BEEP .02,-10:
 PRINT AT 8,f;"■";AT 9,f;"■";A
T 10,f;"■";AT 11,f;"■"
3025 LET f=f+1: IF f=15 THEN GO
TO 3040
3030 PAUSE 20: GO TO 3020
3040 FOR n=0 TO 10: READ x,y: BE
EP x,y: NEXT n
3050 DATA .45,0,.3,0,.15,0,.45,0
,.3,3,.15,2,.3,2,.15,0,.3,0,.15,
-1,.45,0
3060 GO TO 1
```



Now turn to page 119-122 for your free Inlay Card

Fin Fahey checks out a smattering of utility

THE EXTENDED SPECTRUM

programs for Old Rubber Keys

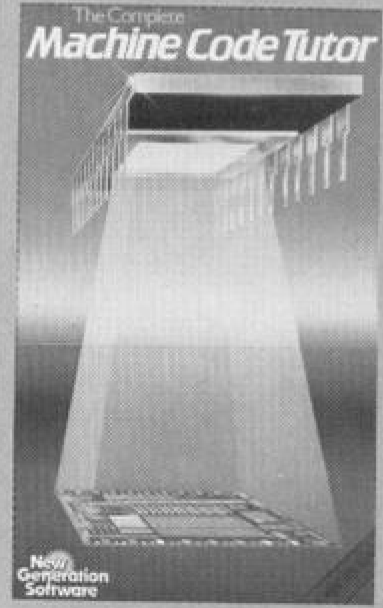
SYSTEM SOFTWARE, as we old computer industry hacks call programming tools, is hardly destined to set the world alight. It smacks of hard work and late night sessions over a hot keyboard and seems light years away from the glamour and fun of, say, a new Melbourne House adventure release. But for people interested in stretching their minds, and their machines, some of these trusty workhorses may well turn out to have hearts of gold.

But why go beyond the facilities offered by Sinclair BASIC? (One may well ask.) Quite simply, no machine, and particularly no BASIC interpreter, fills all the needs of the budding programmer, and for a lot of requirements like arcade games, just hasn't got the speed.

There are a fair number of packages which just add a few useful commands to BASIC extensions or programmer's toolkits, these generally give you the sort of goodies you've always needed to develop your BASIC programs. There's no line Renumber command on the Spectrum, and for this you'll have to buy a toolkit. The same goes for many other 'system' commands. Trace, to give you a continuous listing of program lines being executed, Map, to tell you which variables have been specified, and Block Delete, so you can get rid of more than one line at a time, to name but a few.

Super Toolkit, from Nectarine, has all of these plus such things as a Crunch command, to get all those useless spaces and REMs out of your program before running. It clocks up a total of 12 commands, as does *Toolkit* from IMS Software, which includes an Auto line-numbering routine. Slightly fewer facilities on CP Software's *Spectrum Extended BASIC*, only 10 commands in this case, and the only one unique to this package is Find, which will look for a specific string text in your program. CP, however also do *Supercode*, a machine code toolkit, incorporating a hundred off-the-shelf machine code routines. These include an impressive range of scrolling effects, high-resolution diagonal scroll, low-resolution shutter and ripple scrolls and many others. There are four sound effects generators too, but the truly impressive thing is that you can include CP's code in your own BASIC and machine code programs, an amazing bit of altruism. Each routine has full in-program documentation and a demo mode shows you what they can do. It's got to be good value.

From off-the-shelf machine code to creating your own. If you've decided that BASIC's too slow for your program design, then you'll probably want to write machine code. Some people seem quite happy programming this byte by byte as BASIC POKEs, but for really effective development you'll need an assembler. Assemblers allow you to put Z80 code in assembly language, a much more understandable form, even though it's a lot more obscure looking than BASIC. A good assembler will allow you to specify addresses and constants as meaningful labels which makes the code a lot easier to follow. In such a symbolic assembler, the JP instruction (equivalent of BASIC GOTO) could be rendered JP LOOP instead of giving an actual address, say JP $4000.



But before actually using one of these things, you may need to learn what it's all about. To help you, there are a number of tutorial programs, and some of these actually allow you to set up and test code. Sinclair's *Beyond BASIC* offers a tutorial on the internal structure of the Z80 plus lessons on each assembler instruction. These are illustrated with simple moving graphics. There is an experimenter section where you can watch the effects of your own code on memory and registers. Sadly, this one doesn't cover the entire instruction set.

More complete is New Generation's *Machine Code Tutor*. This comes on two cassettes and covers everything. Once again, you can write your own code and 'run' it on a diagrammatic simulator. Although this is rather harder work than Sinclair's, I think it gives a closer feeling to using an actual assembler.

Dream Software also have a simulator. This has much nicer printed documentation than the other two, but unfortunately it describes an imaginary chip which resembles the Z80 in many respects. I think that this may be unnecessarily confusing, but as long as it's borne in mind, the transition to the real chip shouldn't be too hard. So now you can get down to some real coding . . . Sinclair themselves market the *Zeus Assembler*, which allows full symbolic instructions. Lines of code are entered much as in BASIC, and editing is similar, so this should be an easy one for beginners to move to.



Picturesque's *Editor/Assembler*, on the other hand, has a rather better editor than the Spectrum, but the key response seemed a bit slow to me. This latter program is very tolerant about the format in which you enter code.

Very different from these two is Oasis Software's *Spectre Macro-assembler*, and I certainly wouldn't recommend this one for beginners. It's a very professional product, but using it is more like learning a

Continued overleaf

Continued from previous page

new computer language than anything else. It doesn't use Z80 instructions directly; they have to be set up as procedure definitions much as in high-level languages like Forth or Pascal. This makes it very powerful, since it's just like building your own interpreter. But, as I say, not for newcomers.

An indispensable tool when developing machine code is some sort of Monitor. A Monitor provides easy ways of getting at memory, moving it, changing it, searching it for particular values, that sort of thing. You can also usually get dumps of Z80 register values and step through a machine code program.

The *Zeus* assembler has a reasonable monitor with it, but Sinclair do a more extensive version as a separate product. This also allows you to Disassemble code, which means to translate machine code back to assembly format. Useful for looking at the ROM, but maybe you'd be better off buying one of the 'Spectrum ROM disassembled' type books which also give explanatory notes. Picturesque's *Editor/ Assembler* has no attached monitor and you have to buy theirs separately, although both programs can be loaded at the same time. Again, there's a disassembler.

Assembly language isn't the only way of getting fast code. *Scope II*, from ISP, is a simple language aimed at producing fast machine-code animation. The makers call it a medium-level language, as it's mid-way between BASIC and assembler. I feel it's rather closer to machine code, but it's certainly a lot easier to use. Once you've written code in SCOPE II, it is boiled down by the program to machine code routines, which can be run without Scope being present, so you develop commercial products, or give copies of your games to your friends without fear of committing piracy.

This process of boiling down machine code is known as compilation, and it's possible to do it to BASIC. The only BASIC compiler we had available to look at was Softek's. This is certainly fast. From running a few simple loops, it looks roughly about 150-200 times faster than interpreted BASIC. It does have some serious drawbacks, though. For one, there a quite a few BASIC functions it can't translate, floating-point arithmetic and arrays among them.

More seriously, compiled programs will not run without Softek's run-time routines being present. Unfortunately, the company is being quite prickly about this, and are claiming that if you develop your program and compile it with their program, then they've suddenly acquired a share in it. Whatever the legal position, this seems a little dubious to me, and it's certainly a discouragement to using Softek's product for commercial development.

The final approach to fast code is to use Forth. This high-level language is closer to machine code than BASIC, and



for most purposes runs up to ten times faster. Not spectacular maybe, but it can make a difference. The speed saving is nice, but it's not really thē central point about Forth. The language takes a fundamentally different approach to BASIC, and one which provides a much sounder design discipline. It would certainly be easier to write good machine code after a grounding in it.

Forth is known as a 'procedure-oriented' language. That means there's no more complaining about there not being a command in BASIC to do something. If it's not there in Forth, then you just write your own command, which is compiled into the language vocabulary. Although you can theoretically do this in BASIC by using sub-routines, compiled procedures are much faster and easier to use. Forth is easier to structure too.

There are at least four versions of Forth available on the Spectrum. It's hard to decide between them, but Melbourne House's *Abersoft Forth* is the only one recognised by the independent Forth Interest Group. Sinclair also do a Forth which to my relatively untutored mind seemed much the same, both in terms of speed and usability. Both versions have minimal printed documentation, since they rely on the user going out and acquiring a Forth manual. The sad thing about Forth is that, unless you're a fan of the ill-fated Jupiter Ace, you can't market any of your programs since they won't run without someone else's product.

While on the subject of languages, Logo has been stirring up interest as a teaching language, particularly for younger children. Unfortunately, the version I looked at, *Snail Logo* by CP Software, really merited its name. Logo is high-resolution graphics oriented, and the user commands a 'turtle', or in this case a snail, to draw shapes on the screen. The CP Interpreter turned out to be written in BASIC, so every command is interpreted twice. Slow? I can't imagine anyone, adult, or child, having the patience to work through the manual, let alone use it.

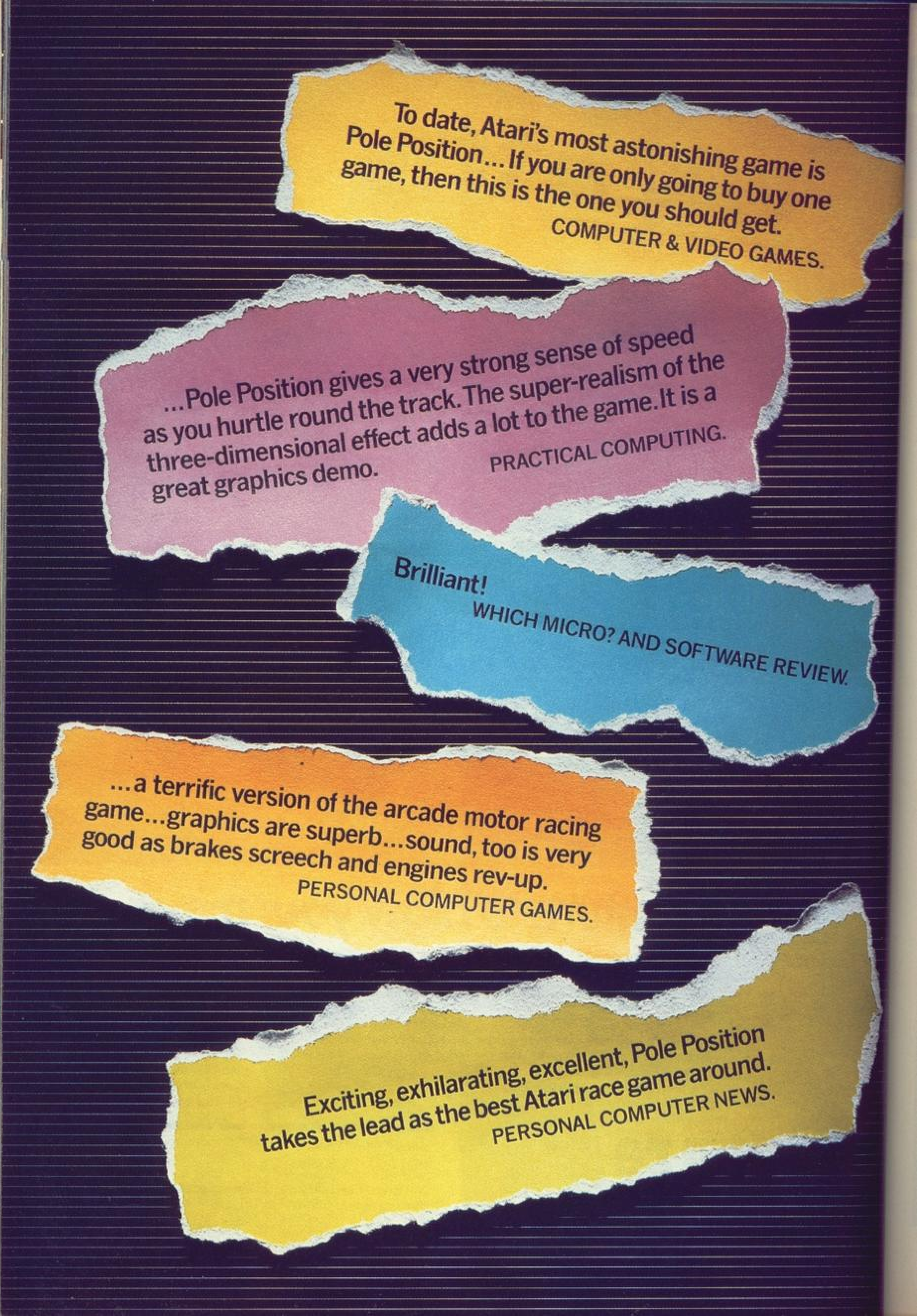
Something of a weirdie, but one I find particularly fascinating, is *Micro-Prolog*, from Sinclair. Prolog represents yet another direction in new languages, and is particularly suited for Artificial Intelligence and linguistic purposes. It's very odd to use after command-oriented type languages like BASIC, or even Forth, because a program in Prolog (it stands for PROgramming in LOGic) is mostly a way of organising data, not of setting up a flow of commands. Now I've got the point, I want to know more about this one. Sinclair *Micro-Prolog's* documentation isn't bad either.



Drifting back to the problem of generating programs, if you're an adventure game writer, you haven't really got one. *The Quill*, from Gilsoft, and Dream's *Dungeon Builder* can both be used to generate adventures of any complexity. We've reviewed them before, and they're both good value. *Dungeon Builder* has the edge in user-friendliness, and can be used to add graphics to adventures, while *Quill* has a more mechanistic approach. Both Gilsoft and Dream are perfectly happy for people to market games produced with their packages. Right on!

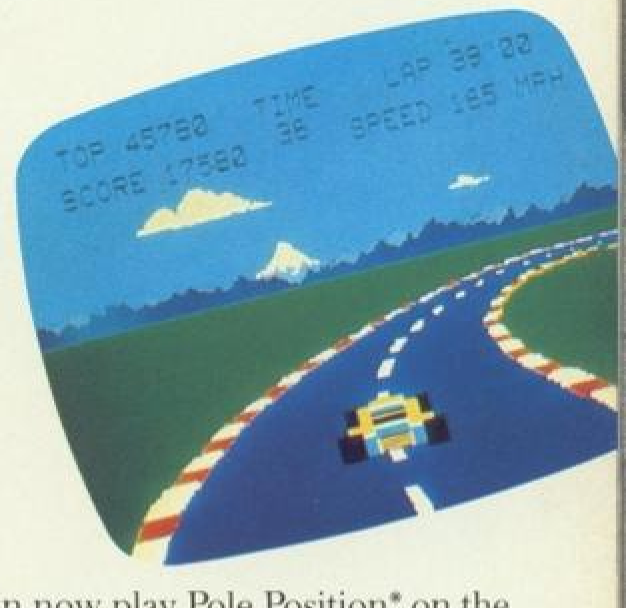
On which cheery note I'll roll the credits and fade to black, but not before noting that this is far from being a complete survey, so if you've discovered an utterly wonderful, or unspeakably awful bit of useful/useless software in this field let us know.

BASIC EXTENSIONS:
SUPER TOOLKIT from NECTARINE
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SPECTRUM EXTENDED BASIC from CP Software
Price: £9.95
SUPERCODE from CP Software
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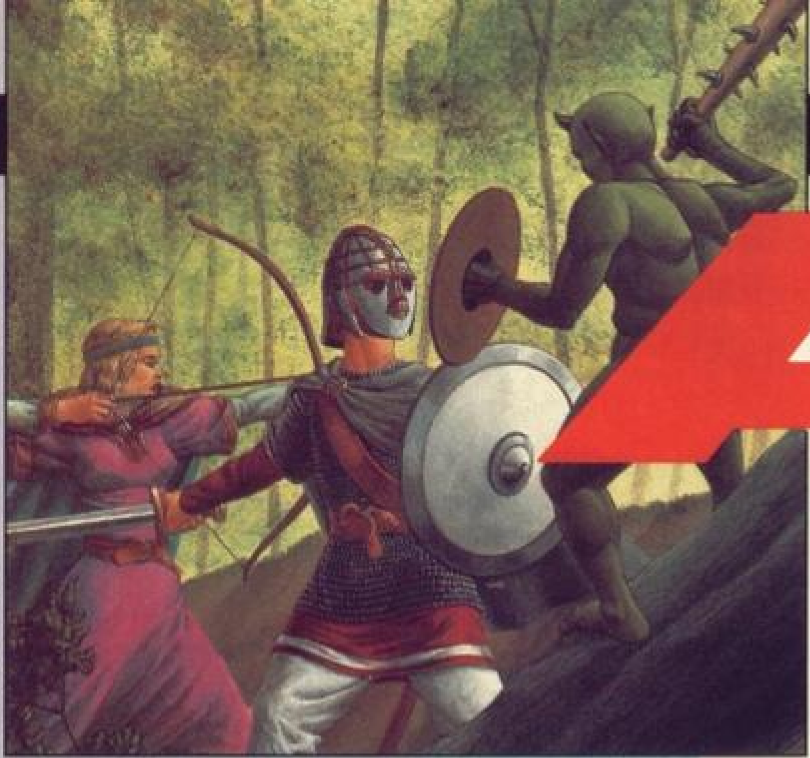
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AVA

Is Hewson Consultants' Avalon difficult? Put it this way: it takes Steve Turner 20 hours to finish — and he WROTE it! Our Man Keaton extracts keyboard from stone, dons rusty green armour, and sets to . . .

FRANKLY, I'M not one for subtle colour.

For me an adventure must REEK of atmosphere before I'll give it the time of day. Unfortunately this predilection for gratuitous padding often obscures the all important art of puzzle solving. Dragons can be slain and demons exorcised but heavy atmosphere will fog the nog every time. Look at *Avalon* the deliciously animated mega-quest from Hewson Consultants. I've become so entranced in its authentic gloom that I'm quite unable to make any headway! Once in, I'll just wander aimlessly through the cobwebs and play hide 'n' seek with the goblin guards! The thing has me spellbound.

Set in the afterglow of the Roman Empire, it tells of the eldritch confrontation between Maroc and Mage and his dread nemesis, the dark Lord of Chaos. As you might suspect, your task is to guide Maroc toward this climactic battle with the shadowy one, negotiating over two hundred rooms on eight levels in the process. Quite a task when you realise that entrance is gained to a room only after an impressive head-butt to the appropriate door. Something of an adventure innovation from creator Steve Turner.

"I'd originally planned to write *Avalon* years ago," Steve tells me, "but no one was interested in the storyboard because 3D games were the in-thing. I think that if I'd gone ahead with it then I might well have become a millionaire, because that was about time animated programs suddenly took off! I'd always thought that a game which combined the scope and puzzle solving element of adventures with arcade style movement would be somethin' else to play!"

He was right. But it also proved something else to write. An unexpected nine months, in fact. Still, the result is both engrossing and fiendishly difficult. Indeed rumour has it that even certain head honchos from Hewson are unable to progress beyond the first Gatehouse level! Can it be possible that *Avalon* is just *TOO* complex for us ordinary mortals?

"No, I don't think so!" he declares cheerfully. "Standard text adventures are probably more complex! I guess it's possible that some people will buy it just as an arcade game and they might well have problems on the final levels. Y'see, there are four objects down there which must be used in sequence to create another object which you'll need to complete the adventure. But the first couple of levels hardly contain any problems at all! They're only there to introduce people to the style of movement. To enable them to get used to the joystick. It gradually gets more complex the deeper you go."



IRON HEAD

He ain't kiddin'! In fact, I rather think that we can take Steve's dismissive attitude with a pinch of salt — as he admits (when pressed) that *Avalon* still takes him around TWENTY hours to complete! And he wrote it! The thing is tough. No question.

"I spent a lot of time researching the game," he explains. "All the place names are real and even the artifacts are genuine. The iron head on Maroc's staff actually exists in the British Museum. Go along and see it! I've tried to make the game so deep that even after maps are published and help given there will still be plenty of things for people to enjoy. I wonder how long it will take

Nice Game

people to kill the spider in *The Caverns of Doom?* He *can* be killed, you know! I think that adventurers will like the way the puzzles take off in the last few levels. The arcade element is still there but it's not so important as Maroc has become powerful enough to trash everything in sight. I still enjoy playing it, more than anything else I've done."

Apparently Maroc is already slated for a sequel in '85. His next adventure will be above ground and will involve a search for the legendary seven crowns of England. Should be good.

Uncle Festus tackles those irritating Dork Problems...

TALKING of sequels, the climax to the *Ket* trilogy, The final mission, dropped onto the desk the other day, even as I was wading valiantly through the *Temple of Vran*. You'd have thought they could have left a decent interval (say 18 months) between each game, eh? Still Tina Speed, a *Ket* Sorceress from Keighley, West Yorkshire, will no doubt rise to the challenge. Thanx for your tips on part 1, Tina, they have been duly noted. Incentive's head man, the dapper Ian Andrews, tells me that their next adventure will be quite unlike any of the *Ket* games. "It will be something TOTALLY unique!" he declares. We wait with bated breath.

Nicholas Murray, a Dorkslayer from down under (Victoria, Australia to be precise), writes in to say that he's trapped on Artic's ancient *Espionage Island*. Considering the age of that prog he may well have been there for years! Apparently an unfriendly tank is screwing up his mission. OK Nick, just find the Landing Light, replace the bulb with the plastic explosive and then flick the switch. The resulting blast will distract the tank and enable you to slip past. This will only work once though, so Save your position before you try anything!

Finally, a word to Richard Bennet, a smart-ass from St. Helier, Jersey. OK Bub, so you've trashed *The Hobbit*. Well let's se how long it takes you to crack *Sherlock*, Melbourne House's latest mega-game! The first solution in wins a freebie from Keaton's Adventure Bin, ok? Mark your envelopes SHERLOCK COMP. I for one, though, have absolutely no intention of playing the thing following my total inability to even remove the cellophane wrapper. Mega-games? Pah! who needs 'em? Have a neat Christmas gang . . .

AVALON (Hewson Consultants) 48K Spectrum £7.95
THE FINAL MISSION (Incentive Software) 48K Spectrum £5.50
TEMPLE OF VRAN (Incentive Software) 48K Spectrum £5.50
ESPIONAGE ISLAND (Artic Computing) 48K Spectrum £5.95
SHERLOCK (Melbourne House) 48K Spectrum £14.95

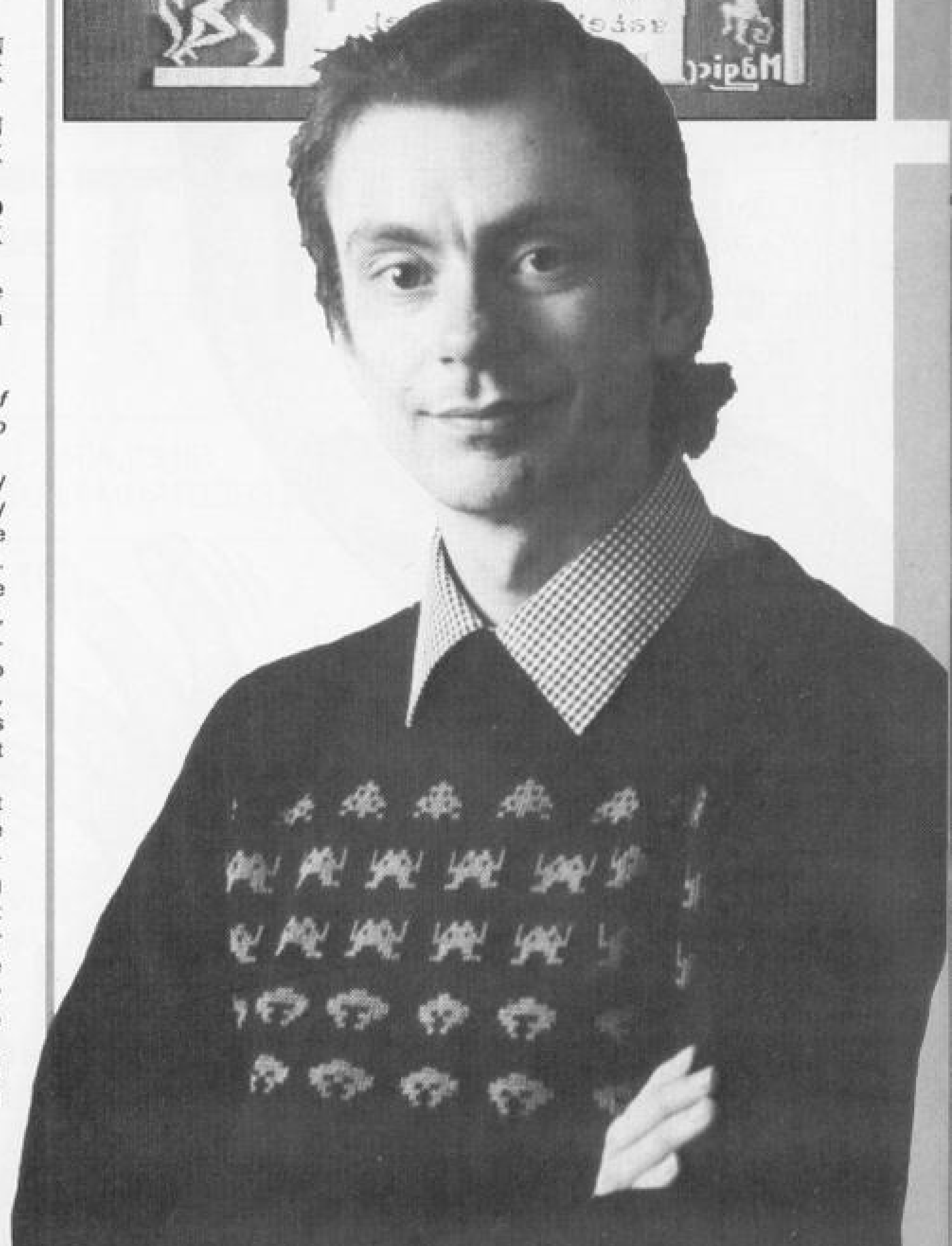
Steve Turner, author of Avalon, offers his advice to fledgling Dorkwriters:

"Always give a friend a copy of your game, and mail a copy to yourself. File that envelope away without opening it. That's an easy way to prove your copyright. That way, you'll never have any problems should you need to go to court. Once you've done that, send your game off to all kinds of publishers and see what offers you get.

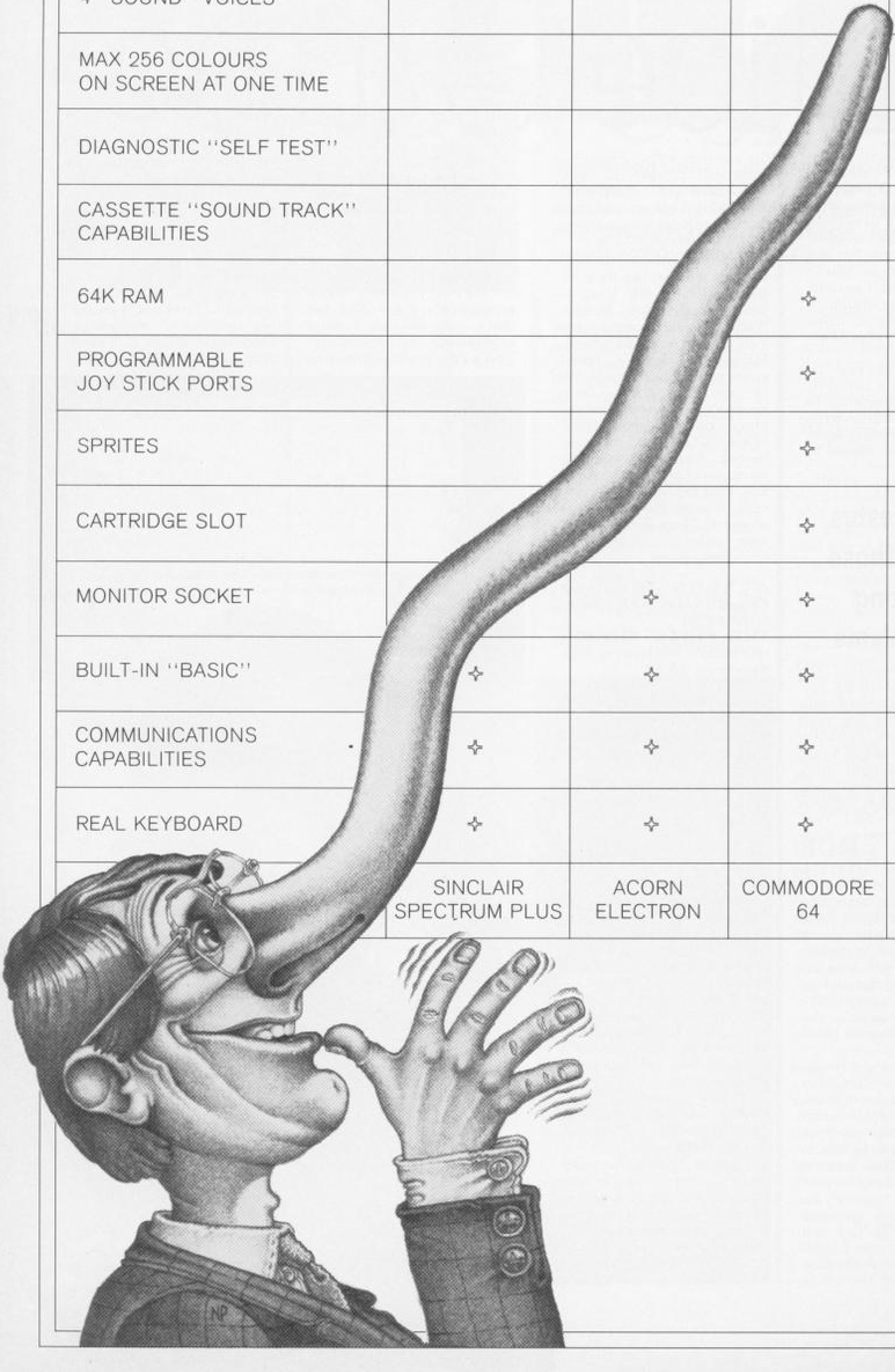
"Don't accept the first offer. Remember, what you're doing is choosing a distributor, not selling a game. Having got some offers, shortlist them and take a look at their advertising clout. Do they use full page adverts? Could they sell your game to people? Take equal care with the contract. A reasonable one ought to be a document between five and ten pages thick. And watch out for clauses which cause you to forfeit all your royalties should the game contain an error! I very nearly got caught out by one of them when choosing a distributor for my first game, *3D Space Wars*!

"Royalty rates vary considerably. I get 20% but that's only because I write exclusively for Hewsons. That's 20% of the distribution cost, not the retail cost! Some smaller companies offer more but have you seen their name on a full colour ad? Weigh up the pros and cons. Finally, always be prepared to listen to people. If your publisher doesn't like something in your program, be prepared to change it. I'm forever changing sections of my games. Even now. Good luck with your game!"





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SPRITES			✧	✧
CARTRIDGE SLOT			✧	✧
MONITOR SOCKET		✧	✧	✧
BUILT-IN "BASIC"	✧	✧	✧	✧
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GAMES TOP 20

KEY N = NEW ENTRY R = RE-ENTRY K = BIG K RAVE

THIS MONTH	LAST MONTH				
1	1		DALEY THOMPSON'S DECATHLON (Ocean)	Spectrum/Commodore 64	£7.90
2	2		FULL THROTTLE (MicroMega)	Spectrum	£6.95
3	10		MONTY MOLE (Gremlin Graphics)	Spectrum/Commodore 64	£6.95/£7.95
4	4		TORNADO LOW LEVEL (Vortex)	Spectrum	£5.95
5	8		BEACH HEAD (US Gold)	Spectrum/Commodore 64	£7.95/£9.95
6	N	K	AVALON (Hewson)	Spectrum	£7.95
7	6		MATCH POINT (Psion)	Spectrum	£7.95
8	7	K	LORDS OF MIDNIGHT (Beyond)	Spectrum	£9.99
9	3	K	SABRE WULF (Ultimate)	Spectrum	£9.95
10	5		JET SET WILLY (Software Projects)	Spectrum	£5.95
11	R	K	FOOTBALL MANAGER (Addictive)	Spectrum/Commodore 64/BBC	£6.95/£7.95
12	N		KOKOTINI WILF (Elite)	Spectrum/Commodore 64	£5.95/£6.95
13	N	K	SHERLOCK (Melbourne House)	Spectrum	£14.95
14	N		AMERICAN FOOTBALL (Argus Press)	Spectrum	£9.95
15	9		DECATHLON (Activision)	Commodore 64	£9.99
16	12		RAPSCALLION (Bug-Byte)	Spectrum	£6.95
18	R	K	PSYTRON (Beyond)	Spectrum	£7.95
19	N		CHARTBUSTER (Alligata)	Commodore 64/BBC	£9.95
20	20		JACK AND THE BEANSTALK (Thor)	Spectrum	£5.95

SPECTRUM TOP 20

1	DALEY THOMPSON'S DECATHLON (Ocean)	£7.90
2	FULL THROTTLE (MicroMega)	£6.95
3	TORNADO LOW LEVEL (Vortex)	£5.95
4	AVALON (Hewson)	£7.95
5	MATCH POINT (Psion)	£7.95
6	LORDS OF MIDNIGHT (Beyond)	£9.99
7	SABRE WULF (Ultimate)	£9.95
8	JET SET WILLY (Software Projects)	£5.95
9	MONTY MOLE (Gremlin Graphics)	£6.95
10	BEACH HEAD (US Gold)	£7.95
11	SHERLOCK (Melbourne House)	£14.95
12	AMERICAN FOOTBALL (Argus Press)	£9.95
13	WORLD CUP FOOTBALL (Artic)	£6.95
14	RAPSCALLION (Bug-Byte)	£6.95
15	KOKOTINI WILF (Elite)	£5.95
16	FOOTBALL MANAGER (Addictive)	£6.95
17	PSYTRON (Beyond)	£7.95
18	JACK AND THE BEANSTALK (Thor)	£5.95
19	FIGHTER PILOT (Digital Integration)	£7.95
20	OLYMPICON (Mitech)	£5.95

COMMODORE 64 TOP 20

1	DALEY THOMPSON'S DECATHLON (Ocean)	£7.90
2	BEACH HEAD (US Gold)	£9.95
3	MONTY MOLE (Gremlin Graphics)	£7.95
4	KOKOTINI WILF (Elite)	£6.95
5	DECATHLON (Activision)	£9.99
6	CHARTBUSTER (Alligata)	£9.95
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8	SUMMER GAMES (Quicksilva)	£14.95
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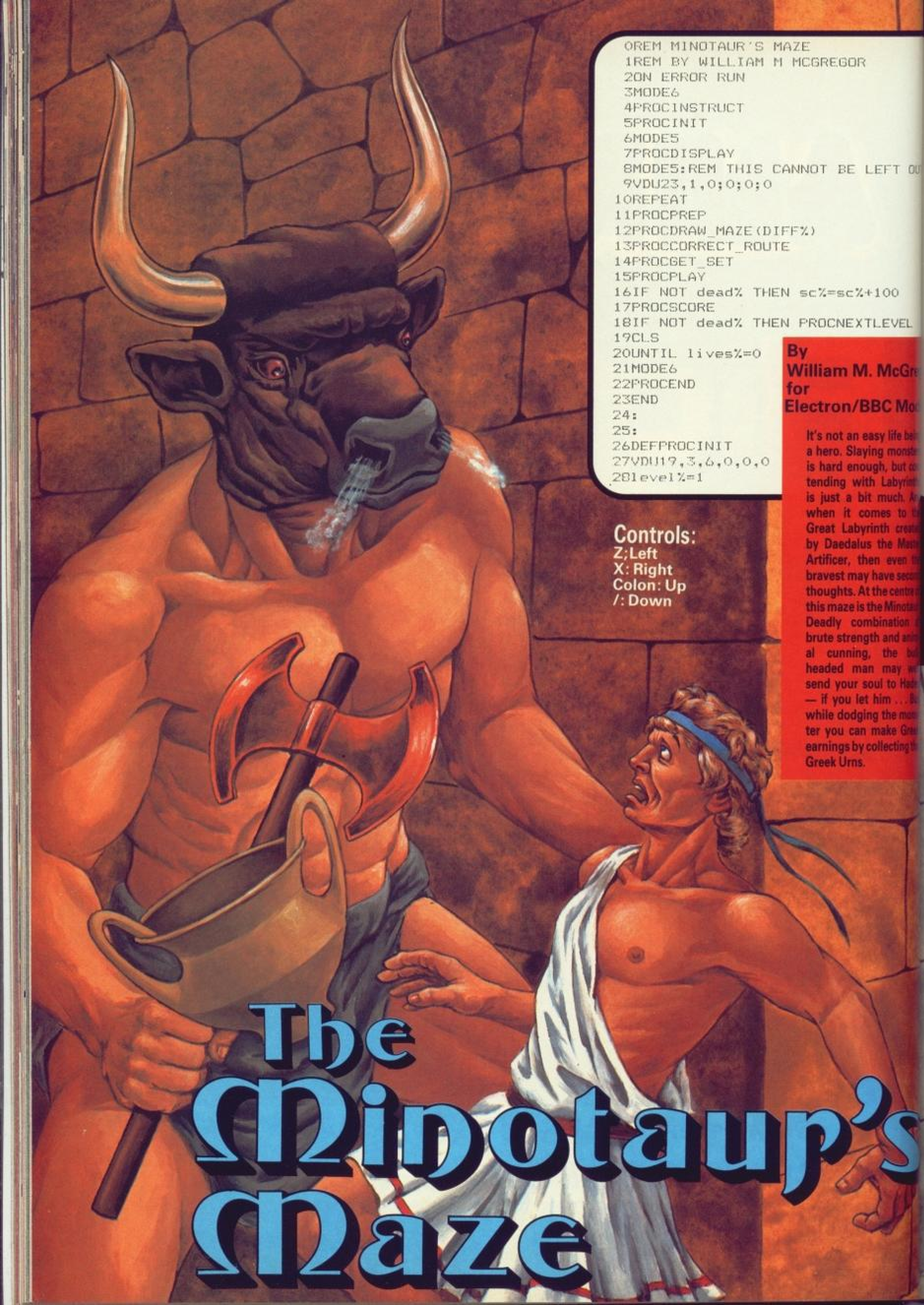
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The Minotaur's Maze

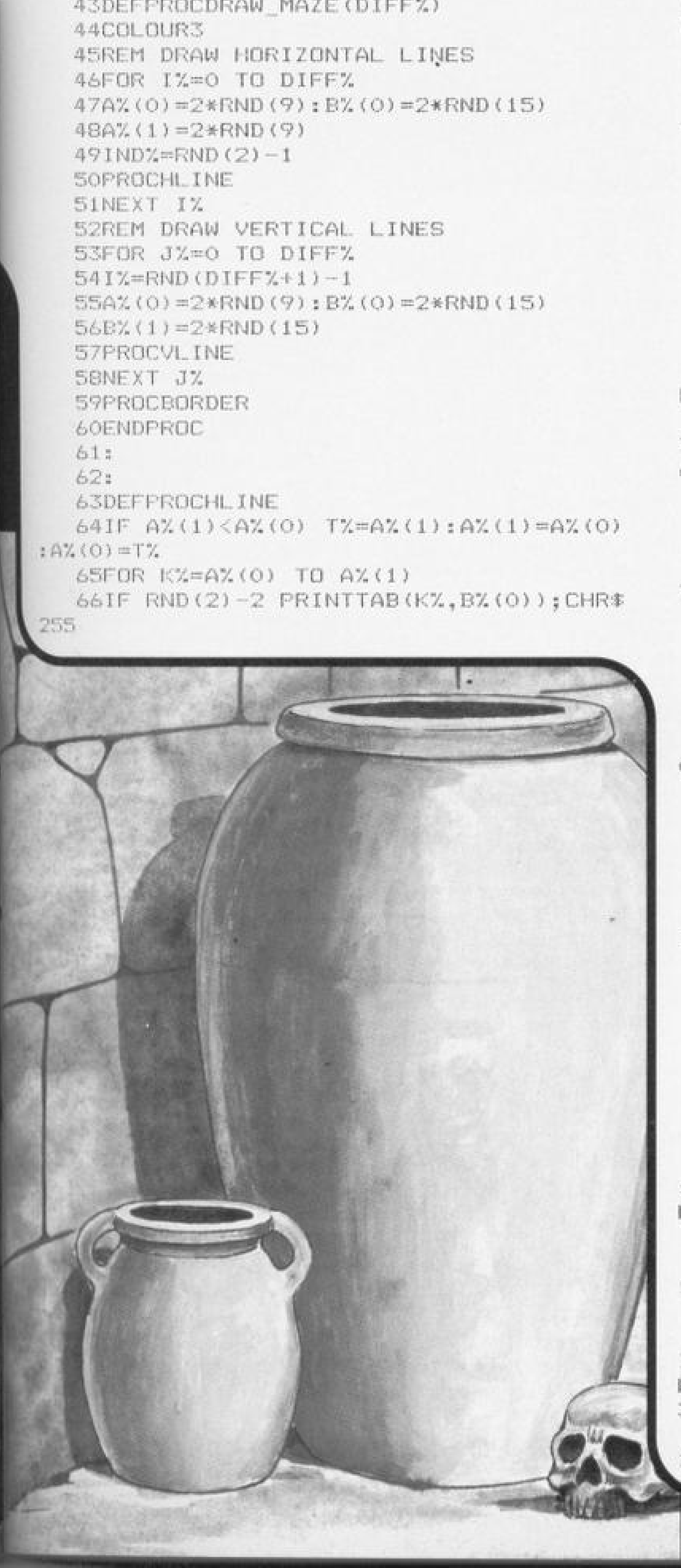
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0REM MINOTAUR'S MAZE
1REM BY WILLIAM M MCGREGOR
2ON ERROR RUN
3MODE6
4PROCINSTRUCT
5PROCINIT
6MODE5
7PROCDISPLAY
8MODE5:REM THIS CANNOT BE LEFT OU
9VDU23,1,0;0;0;0
10REPEAT
11PROCPREP
12PROCDRAW_MAZE(DIFF%)
13PROCCORRECT_ROUTE
14PROCGET_SET
15PROCPLAY
16IF NOT dead% THEN sc%=sc%+100
17PROCSCORE
18IF NOT dead% THEN PROCNEXTLEVEL
19CLS
20UNTIL lives%=0
21MODE6
22PROCEND
23END
24:
25:
26DEFPROCINIT
27VDU19,3,6,0,0,0
28level%=1
```


By William M. McGre
for Electron/BBC Mo

It's not an easy life bei a hero. Slaying monste is hard enough, but co tending with Labyrint is just a bit much. A when it comes to t Great Labyrinth creat by Daedalus the Mast Artificer, then even t bravest may have seco thoughts. At the centre this maze is the Minota Deadly combination brute strength and ani al cunning, the bu headed man may w send your soul to Had — if you let him ... B while dodging the mon ter you can make Gre earnings by collecting t Greek Urns.

Controls:
Z;Left
X: Right
Colon: Up
/: Down

```
29nmon%=0:DIFF%=15
30DIM A%(1),B%(1),MX%(6),MY%(6)
31XS%=RND(15)+3:YS%=RND(28)
32lives%=3:sc%=0
33close%=7
34VDU23,255,255,255,255,255,255,255,2
55,255
35VDU23,240,24,126,90,36,24,60,36,0
36VDU23,241,28,42,28,8,127,28,20,20
37VDU23,242,255,138,184,157,184,138,2
55,255
38VDU23,243,0,255,126,126,60,24,60,12
6
39ENVELOPE1,20,20,-30,10,10,10,126,0,
0,0,-126,126,126:ENVELOPE2,32,-16,8,3,1,
2,0,126,0,0,-126,126,126
40ENDPROC
41:
42:
43DEFPROCDRAW_MAZE(DIFF%)
44COLOUR3
45REM DRAW HORIZONTAL LINES
46FOR I%=0 TO DIFF%
47A%(0)=2*RND(9):B%(0)=2*RND(15)
48A%(1)=2*RND(9)
49IND%=RND(2)-1
50PROCHLINE
51NEXT I%
52REM DRAW VERTICAL LINES
53FOR J%=0 TO DIFF%
54I%=RND(DIFF%+1)-1
55A%(0)=2*RND(9):B%(0)=2*RND(15)
56B%(1)=2*RND(15)
57PROCVLINE
58NEXT J%
59PROCBORDER
60ENDPROC
61:
62:
63DEFPROCHLINE
64IF A%(1)<A%(0) T%=A%(1):A%(1)=A%(0)
:A%(0)=T%
65FOR K%=A%(0) TO A%(1)
66IF RND(2)-2 PRINTTAB(K%,B%(0));CHR$
255
```



```
67NEXT
68ENDPROC
69:
70:
71DEFPROCVLINE
72IF B%(1)<B%(0) T%=B%(1):B%(1)=B%(0)
:B%(0)=T%
73FOR K%=B%(0) TO B%(1)
74IF RND(2)-2 PRINTTAB(A%(0),K%);CHR$
255
75NEXT
76ENDPROC
77:
78:
79DEFPROCBORDER
80RESTORE
81FOR G%=0 TO 3
82READ a%,b%,c%,z$
83IF z$="V" THEN FOR F%=a% TO b%:PRIN
TTAB(c%,F%);CHR$255:NEXT ELSE FOR F%=a%
TO b%:PRINTTAB(F%,c%);CHR$255:NEXT
84NEXT
85ENDPROC
86DATA 2,19,30,H,0,29,2,V,0,29,19,V,3
,18,0,H
87:
88:
89DEFPROCCORRECT_ROUTE
90X%=XS%:Y%=YS%
91DIR%=7:PD%=7
92FOR K%=0 TO RND(10)+50
93PD1%=PD%:PD%=DIR%
94REPEAT
95DIR%=RND(4)
96UNTIL DIR%<>PD%-2 AND DIR%<>PD%+2 A
ND DIR%<>PD1%-2 AND DIR%<>PD1%+2
97IF DIR%=1 AND Y%>1 Y%=Y%-1 ELSE IF
DIR%=2 AND X%<18 X%=X%+1 ELSE IF DIR%=3
AND Y%<28 Y%=Y%+1 ELSE IF X%>3 X%=X%-1
98PRINTTAB(X%,Y%);" "
99NEXT
100XF%=X%:YF%=Y%
101dist%=SQR((XF%-XS%)*(XF%-XS%)+(YF%-
YS%)*(YF%-YS%))
102IF dist%<close% PROCCORRECT_ROUTE
103ENDPROC
104:
105:
106DEFPROCPLAY
107SOUND&0010,0,0,10:SOUND&0011,-15,15
0,7
108COLOUR2
109x%=XS%:y%=YS%:px%=x%:py%=y%
110PRINTTAB(x%,y%);CHR$241
111REPEAT
112PROCMOVE
113IF move% PRINTTAB(x%,y%);CHR$241:PR
INTTAB(px%,py%);" ":px%=x%:py%=y%
114IF RND(5)-4 PROCMOVE_MONSTERS
115IFlevel%<3 FORw%=0TO80:NEXT
116UNTIL (x%=XF% AND y%=YF%) OR dead%
117ENDPROC
118:
119:
120DEFPROCMOVE
121move%=FALSE:col%=0
122IFINKEY(-98) col%=FNcolour(x%-1,y%)
:IFcol%<>3 x%=x%-1:move%=TRUE ELSE IFINK
EY(-67) col%=FNcolour(x%+1,y%):IFcol%<>3
 x%=x%+1:move%=TRUE ELSE GOTO125
123IFcol%=1 sc%=sc%+10*level%:SOUND0,-
15,80,2
124ENDPROC
125IFINKEY(-105) col%=FNcolour(x%,y%+1
):IFcol%<>3 y%=y%+1:move%=TRUE ELSE IFIN
KEY(-73) col%=FNcolour(x%,y%-1):IFcol%<>
3 y%=y%-1:move%=TRUE
126IFcol%=1 sc%=sc%+10*level%:SOUND0,-
15,80,2
```

Continued on page 94

HARDWA

Commodore 64

LOVE it or loathe it, you can't ignore the Commodore 64. There are certainly a lot of 'em out there in Userland. At about £190 a time, the 64 is good value, and can grow into a useful system with discs, printers and modems all available as add-ons. Commodore claim that it is equally useful in the home and in the office, though I find it too slow for any serious computing. The keyboard isn't really up to the kind of bashing that most working micros have to take, and the 40 column screen rules out decent word-processing. It uses the 6510, a special version of the vintage 6502 eight-bit processor and boasts 64k of memory.

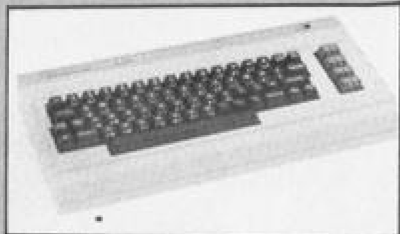
For: In my book the 64 passes the most important test of all; there are lots of other users about. This means book, magazine and software publishers will continue to support owners for a while yet. With a 64 you aren't likely to be left high and dry.

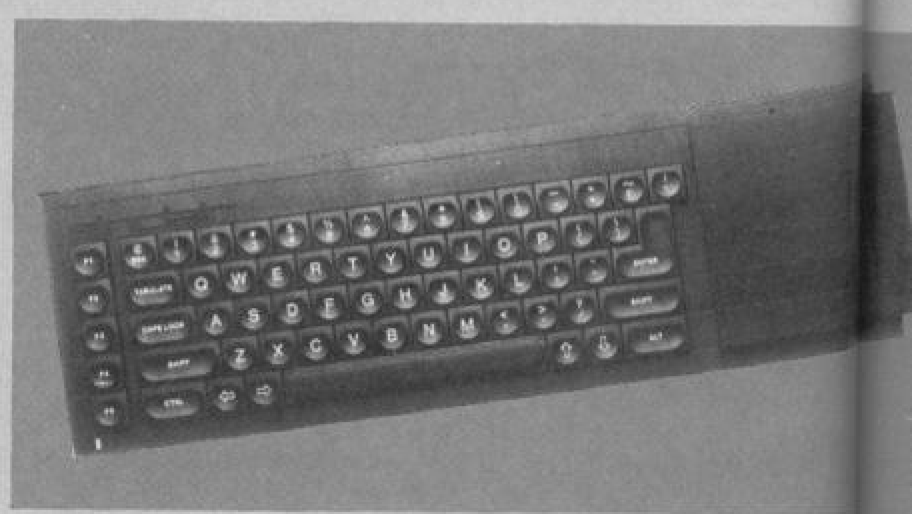
Sprites and the Sid chip sound synthesiser give the 64 some powerful hardware features. Peripheral addicts can choose from a wide range of add-on printers, a disc drive, and a modem for Commodore. Independently produced add-ons include MIDI interfaces that can connect the 64 to music equipment, speech synthesisers, light rifles and loads of other goodies.

Against: although the 64 has some tasty features like sprites, hi-res graphics and a beefy sound synthesiser, the BASIC is incapable of supporting them, and there isn't much of the 64k memory left once you use graphics. This means that to get a 64 to do anything interesting you have to learn machine-code, or pay out for a BASIC extension. That might be painful, but reading the manual makes a visit to the dentist seem like fun. Believe me, if you can get information out of the supplied manual, you should apply for a job with MI5.

Loading games from cassette is very slow. Newer games use special fast ("turbo") loaders to get around this. The disc unit isn't that rapid either. I find that the 64's TV output tends to give a poor picture, and curing this with a colour monitor can set you back £200.

Pose Value: Hacker.





MSX

MSX SEEMS to be the flavour of the month, but not everyone agrees. Britain's microcomputing big-wigs think that they can ignore it and it will go away.

For: MSX is a good idea, allowing users to build "mix and match" systems, similar to component hi-fi rigs using parts from different manufacturing ranges. All MSX machines use the same BASIC, which is one of the better versions of the language, and there is already an impressive software range for the machines.

The computers are all nicely designed, and come with proper keyboards and stylish cases that look terrific on coffee tables. MSX-DOS is very similar to MS-DOS, the system used by the IBM-pc, so will give MSX users access to a larger software base.

Against: In many ways MSX is not all that it's cracked up to be. For a start, the different versions of BASIC are NOT identical. Software houses cannot guarantee that MSX software will run on every machine.

MSX computers are overpriced. These machines are no better technically than computers costing £100 less. What annoys me is that MSX machines are all based on old technology. Which means an MSX computer is severely limited from day one.

Pose Value: Habitat Customers.

Sinclair Spectrum

SINCLAIR'S SPECTRUM is the Model T Ford of home computers. (It comes in any colour so long as it's black.) Now facing its third Christmas, the old Spectrum magic is beginning to wear a bit thin. However, at £129 for a 48k machine, you could do a lot worse.

For: basically a million-plus owners can't be wrong. This huge user base means that software sellers and hardware hawkers can't afford to ignore the Spectrum. Software hackers have exploited the hardware to the limit; recently the pace of software development may have slowed a little but the Spectrum has the widest software range of all the home computers. There is something for everybody, and some of the software is simply brilliant.



Against: For all its good points, the Spectrum is a bit naff around the edges. I found that a Spectrum tends to break down after a lot of use. Sometimes the machines just die, but a lot of people find that the "dead flesh" rubber keyboard tends to wear out.

Microdrives might be technically clever, but they are no substitute for a real disc drive. I'm not impressed by the need to pay extra money for a joystick and cartridge port, and again there isn't much decent software available on cartridge.

No sane person would use the Spectrum for any serious purpose such as word-processing or running a business. To build a Spectrum up to specification approaching that of, say, an Atari 600XL can set you back around £400.

Pose Value: One of the Boys.

Amstrad

WHEN I heard that Amstrad was going to launch a computer I wasn't surprised. After all, Sony and JVC make hi-fi and computers, Amstrad makes cheapo hi-fi so why not make cheapo micros? The best thing about the Amstrad micro is that a single purchase buys a complete system. For the price of two weeks in Torremolinos you can pose in the comfort of your home with a computer, built-in cassette unit *and* a colour monitor.

Amstrad could have picked a snappier name than "CPC-464" for the machine. I suppose it means something to someone. Like most other fashionable computers the Amstrad uses the Z80, which is to micros what Linndrums are to hit records.

For: as eight-bit computers go, the Amstrad is quick. In most respects it is as quick as the BBC model B; it beats heavyweight so-called 16-bit micros like the Sinclair QL and IBM-pc, and is



about four times as rapid as the Sinclair Spectrum. On its own these statistics don't mean much, but it all adds up to a well designed ROM.

Against: it's a shame you can't buy the monitors separately. An even bigger shame is that you can't upgrade from a monochrome monitor to a colour version. Instead you must pay for an adaptor allowing the monochrome version to use a colour television. If you already have a tape-recorder you have to pay for bits you don't need. At the moment there isn't a great deal of brilliant software but some is on the way.

Pose Value: Move over, Paul Weller!

The complete buyers guide!

Sinclair QL

SOMETIMES I think Clive Sinclair and Malcolm Maclaren are the same person. Both have ginger hair, both have the art of hype down to an artform and they share a motto: "Cash from Chaos". All the same, the generous 128k RAM and meaty Motorola 68008 processor make most punters' eyes water.

For: SuperBasic is everything you want from a version of the world's most popular programming language, though it may not be fully debugged yet. The QL has what passes for a real keyboard, even if it doesn't feel as good as those on more expensive machines. The local area network will appeal to sociable computer users. Unlike previous Sinclair micros, the QL has been treated to a liberal dose of user ports.

The QL comes together with four software packages, which are not wonderful, but are enough to get you started. Some of the QL's features are imperfect implementations of very advanced facilities, for example "windows" and "multitasking".

Against: The QL is slow, even though it uses the 68008 chip running at a zippy 7.5MHz. The 68008 is a junior member of the ultra-wonderful 68000 chip family, and is a powerful processor capable of addressing vast quantities of Ram. However, although it may be a 32-bit processor internally, externally it uses an 8-bit bus. This is a bit like reducing a motorway to a single lane of traffic, and makes the QL a sheep in wolf's clothing.

Any new machine suffers from lack of software, but the QL has been around for some months now and there is still hardly any software, and (to my knowledge) no games. This is because the QL uses microdrives and doesn't have a cassette port. The microdrives can't hold much data either and spare cartridges are not easy to get hold of.

Pose Value: Sloane Rangers and Hooray Henries.

Atari 600xl and 800xl



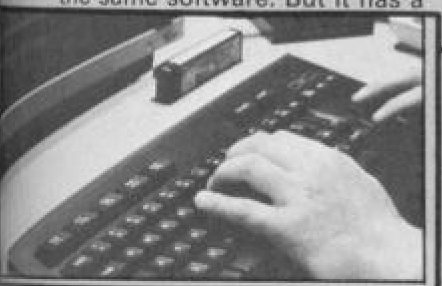
ATARI MICROS have been consistently underrated by the UK press and public alike. This is probably due to the curious pricing policy of the machines in the past. But now they are as cheap as any and the Atari 600XL is brilliant value at around £89. Much of what applies to the 600XL applies to the 800XL. It uses the same 6502 processor, has the same graphics and runs the same software. But it has a full 64k memory whereas the 600XL has a measly 16K.

For: Unlike almost every other range of computer, any Atari computer can run on any Atari computer software. Atari did this ages before anyone heard of MSX. This means that the amazing games available on cartridge for the Atari 400 and 800 will run on the 600XL and 800XL.

Graphics and sound have been standard on Atari computers for years now, and Atari was the first manufacturer to use sprites. It's not so much a question of the Atari being a little out of date, more that the competition has taken a long time to catch up.

I really like the Atari peripherals which include a graphics tablet and a track-ball.

Against: the cartridge software is very good but the cassette software can be both expensive and boring. Not only that but I found that the cassette loading can be unreliable. This doesn't matter in the USA where everyone is so rich they can afford floppy disc drives. Over here in the UK all peripherals seem expensive, especially compared with the cost of the actual main computer unit. So far the Atari has not achieved the kind of sales to create a lot of excitement in the UK, though the new low prices could change that. **Pose Value:** Space Cadet.





Acorn BBC model B

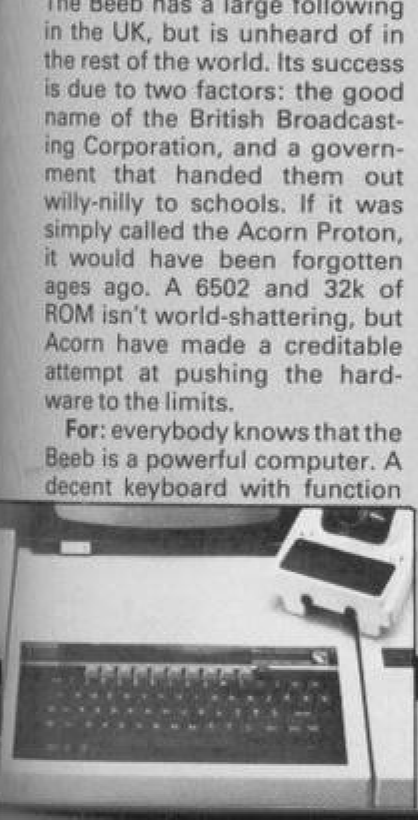
AS ADVERTISED on the television, night after night. Hardly an episode of Tomorrow's World goes past without a free plug. The Beeb has a large following in the UK, but is unheard of in the rest of the world. Its success is due to two factors: the good name of the British Broadcasting Corporation, and a government that handed them out willy-nilly to schools. If it was simply called the Acorn Proton, it would have been forgotten ages ago. A 6502 and 32k of ROM isn't world-shattering, but Acorn have made a creditable attempt at pushing the hardware to the limits.

For: everybody knows that the Beeb is a powerful computer. A decent keyboard with function keys, sensible ports — and, maybe the best version of BASIC in the civilised world — combine to make it a serious proposition for businessmen and home users alike.

Recently I have seen some excellent games software for the Beeb, and there is also a great deal of educational, engineering and scientific software for the machine. There are also two very good word-processors. A lot of tasty add-ons are available for the Beeb, including MIDI-interfaces, modems, extra ROMs and a teletext adaptor. It is even possible to add second processors (Z80 and 6502). The Beeb is also one of the very fastest machines around.

Against: the Beeb is expensive for what it is; so are the Acorn add-ons. Adding a disc can be very expensive — you need a chip which costs nearly £100, making the effective price of the full spec Beeb . . . £500.

Pose Value: Guardian Reader.



Acorn Electron

CONCERNED parents everywhere love the Electron. It has worthiness written all over it. Being an Acorn, the Electron isn't cheap, in fact you have to be holding a fair bit of folding to find £200 for a micro with just 32K of RAM.

For: programming the Electron is similar to programming the BBC. Certain software written for the Beeb can transfer to the Electron,

Against: expensive with a small memory. I would expect to see a printer port and a pair of joystick ports included in the basic machine. To add these on seems to cost an arm and a leg. This seems to be part of Acorn's policy of simply not making any concessions to the customers. On the whole Electron software is dreary.

At times the Electron appears to be no more than a sawn-off Beeb. It isn't quite BBC-like enough. If Acorn had given it a better spec, then the Electron would have hit sales of the flagship model B.

Pose Value: Teacher's Pet.

Oric Atmos

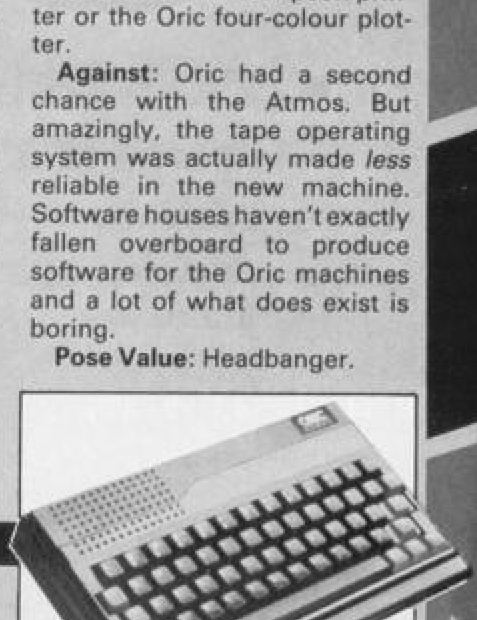
HEAVY METAL fans will love the Atmos because it is LOUD. Not only is this beasty big on the decibel front, but it has built-in sound commands like SHOOT, ZAP, PING and EXPLODE. The demonic black and red colour scheme of the case will liven up any headbanger's dungeon.

Destined to become one of life's also-rans the Atmos actually isn't a bad little machine.

For: The Atmos does have a lot of memory spare for a 48K machine. The keyboard is fairly good and capable of taking a thrashing from decibel-crazed users. Also the Atmos has a built-in parallel printer port so it can be used with an Epson printer or the Oric four-colour plotter.

Against: Oric had a second chance with the Atmos. But amazingly, the tape operating system was actually made *less* reliable in the new machine. Software houses haven't exactly fallen overboard to produce software for the Oric machines and a lot of what does exist is boring.

Pose Value: Headbanger.





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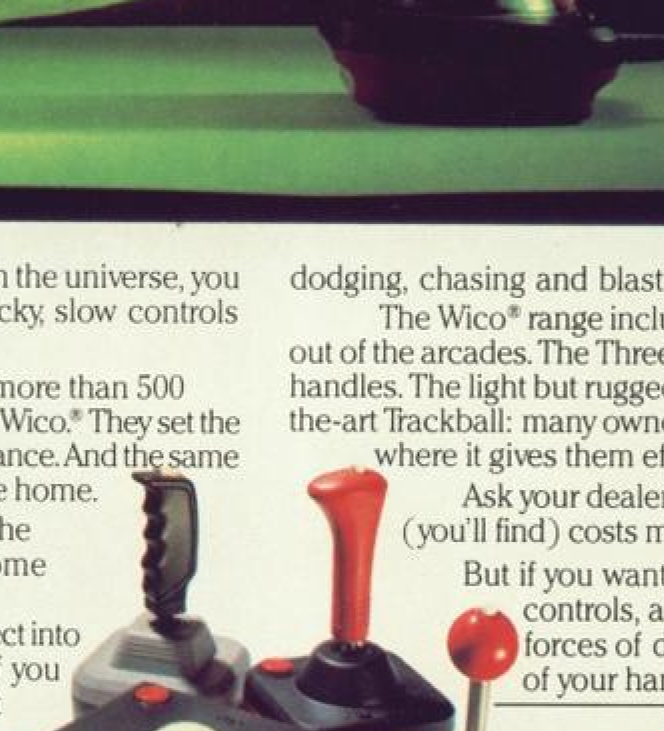
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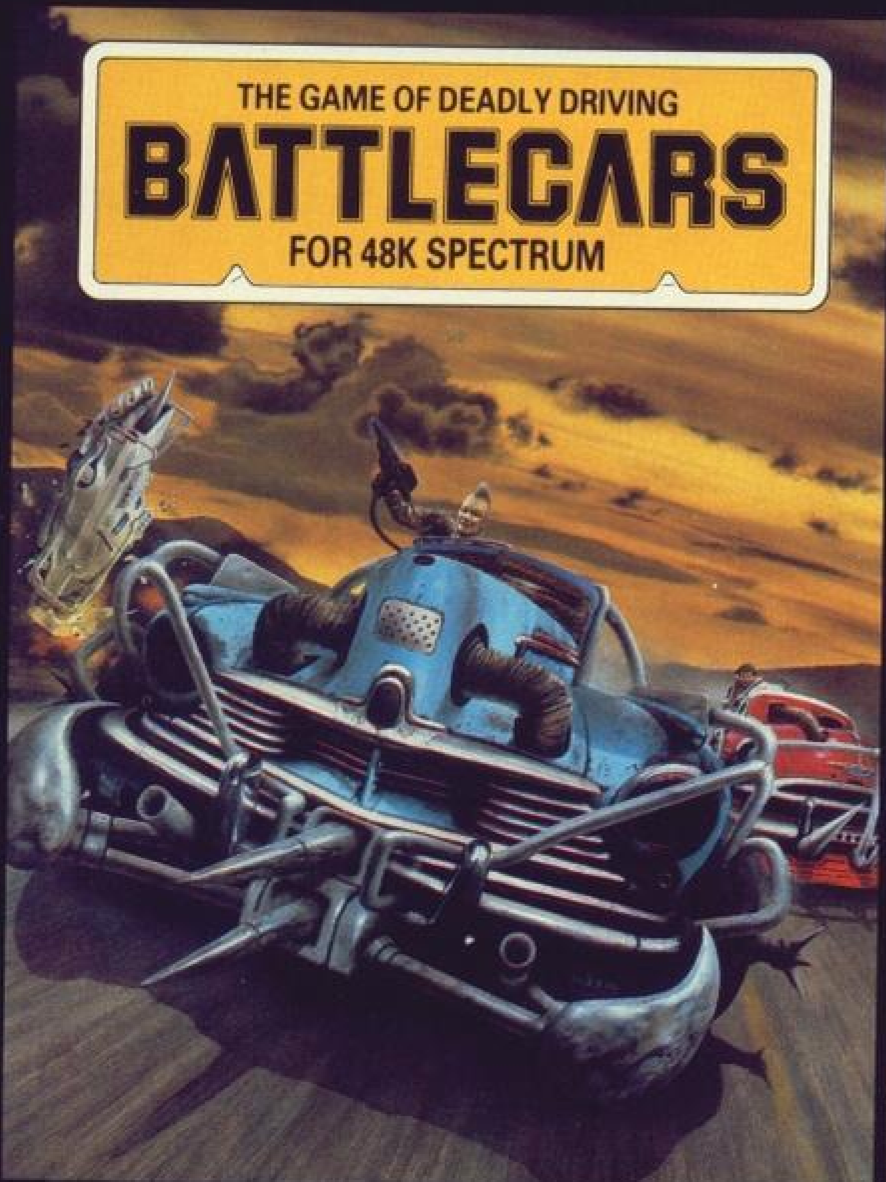


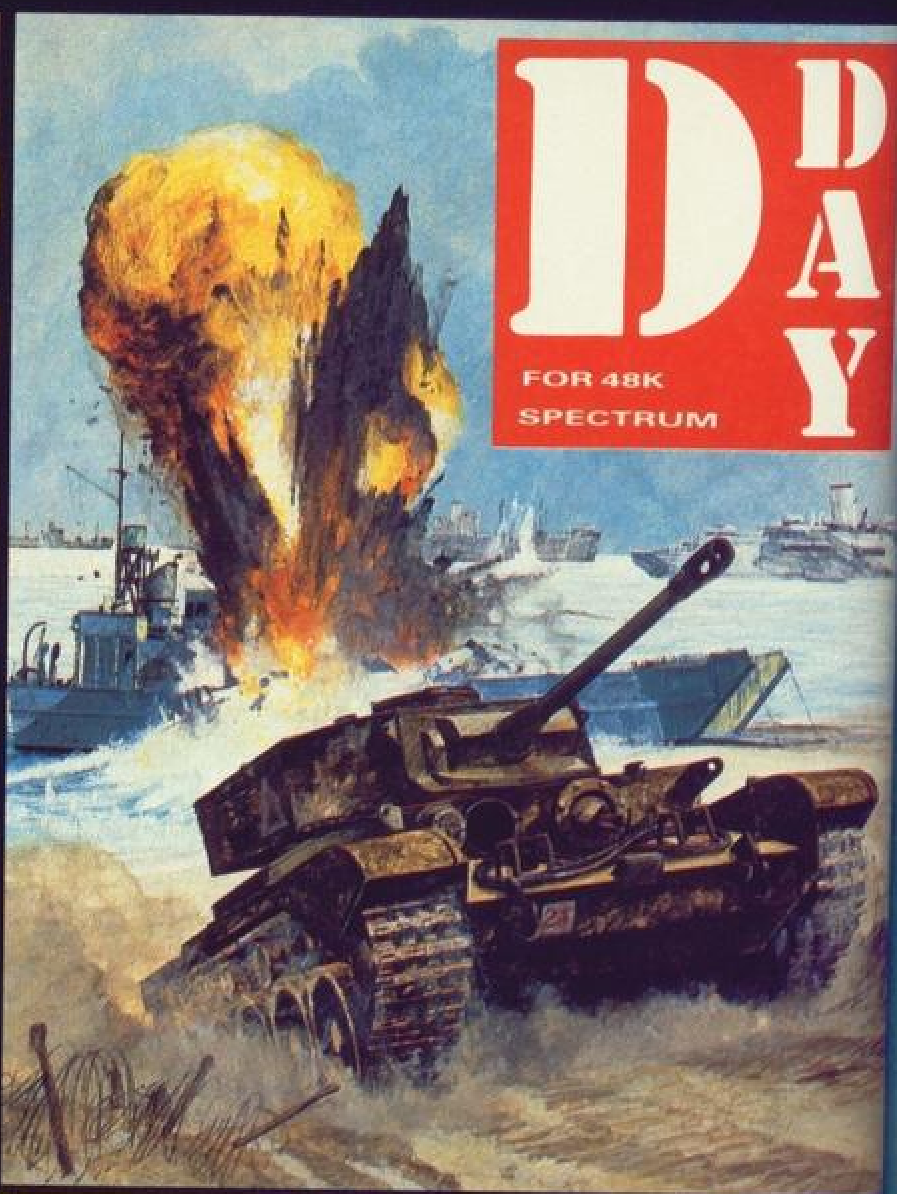
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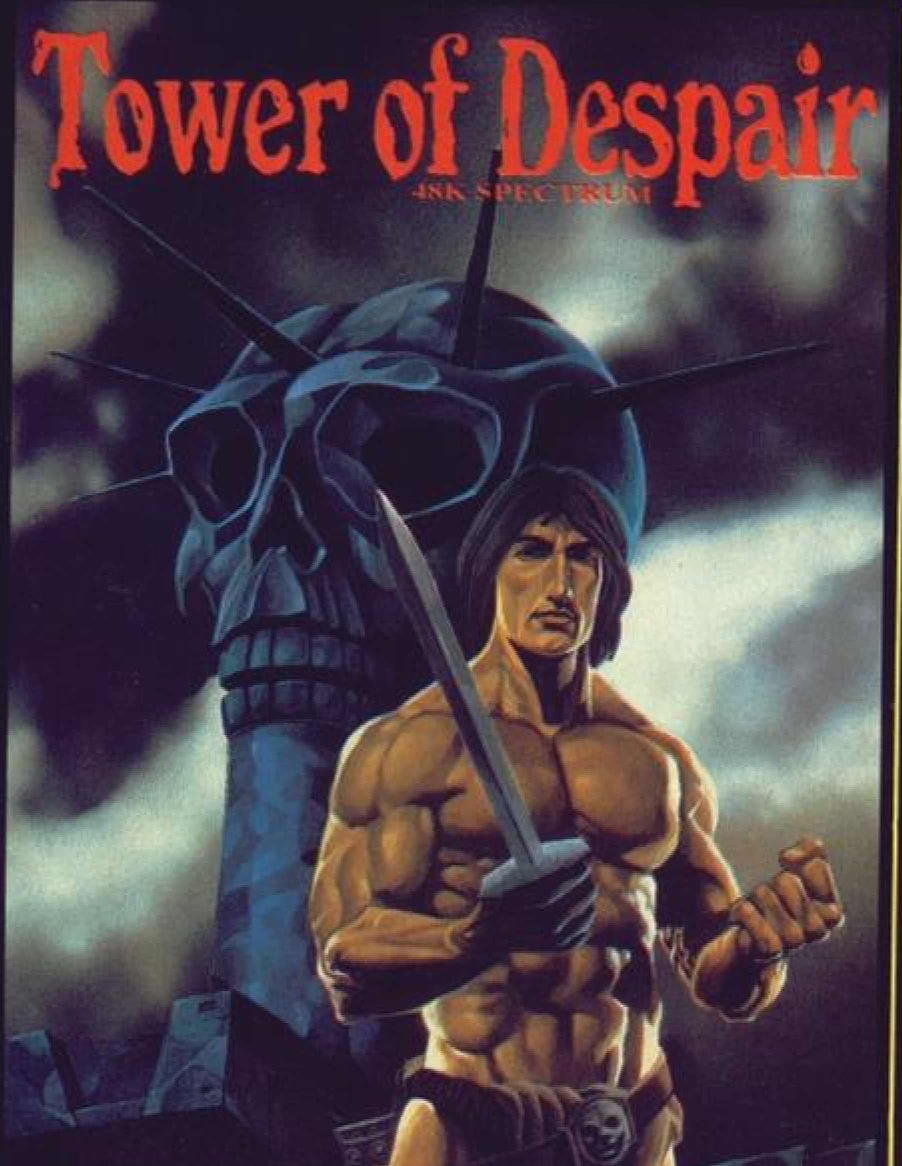
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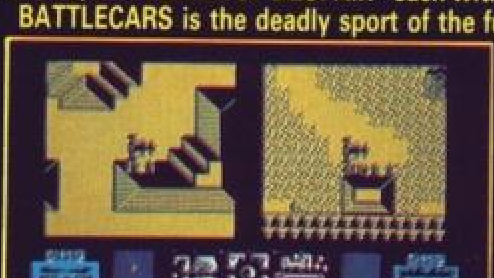




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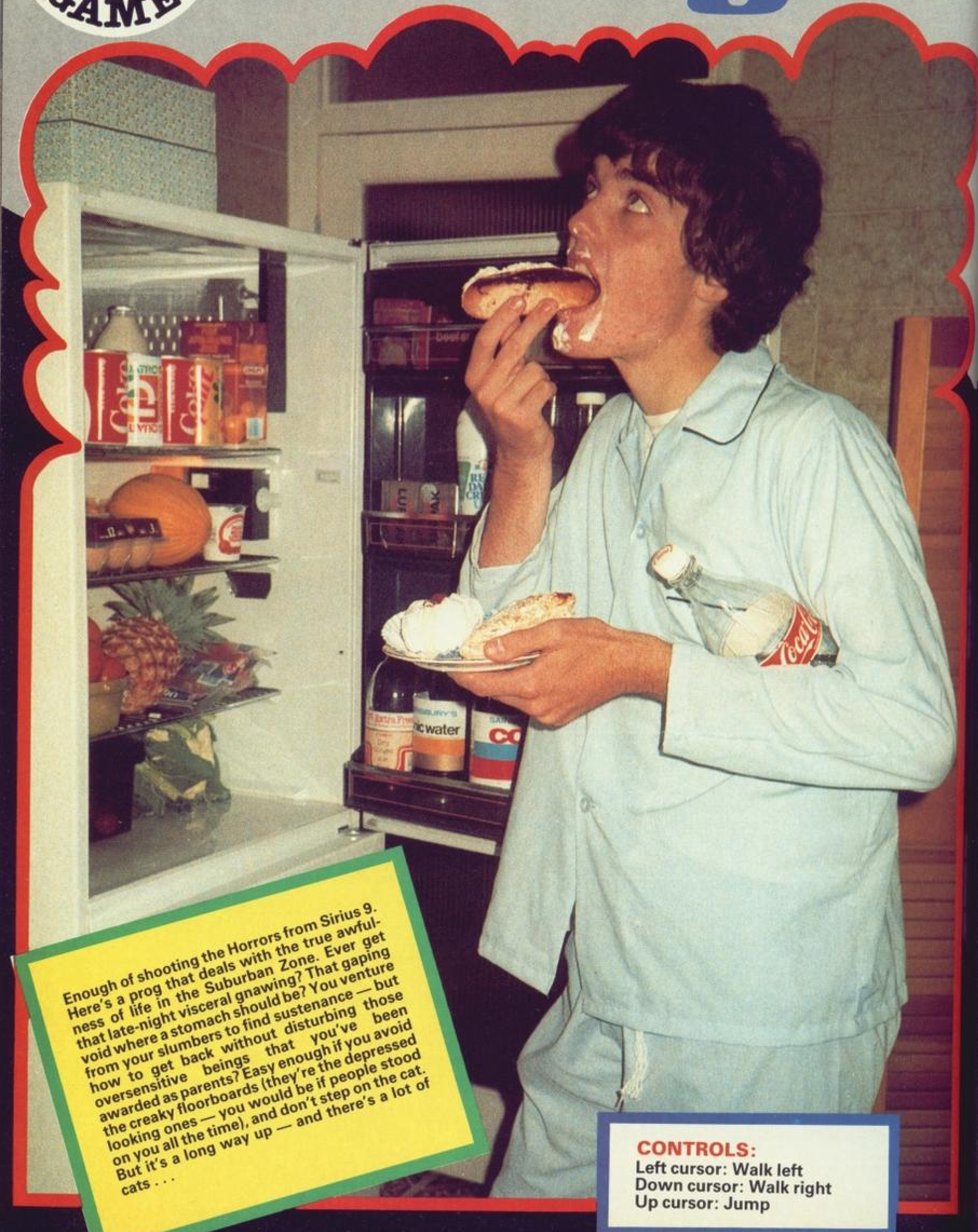
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Address
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Midnight



Enough of shooting the Horrors from Sirius 9. Here's a prog that deals with the true awfulness of life in the Suburban Zone. Ever get that late-night visceral gnawing? That gaping void where a stomach should be? You venture from your slumbers to find sustenance — but how to get back without disturbing those oversensitive beings that you've been awarded as parents? Easy enough if you avoid the creaky floorboards (they're the depressed looking ones — you would be if people stood on you all the time), and don't step on the cat. But it's a long way up — and there's a lot of cats . . .

CONTROLS:
Left cursor: Walk left
Down cursor: Walk right
Up cursor: Jump

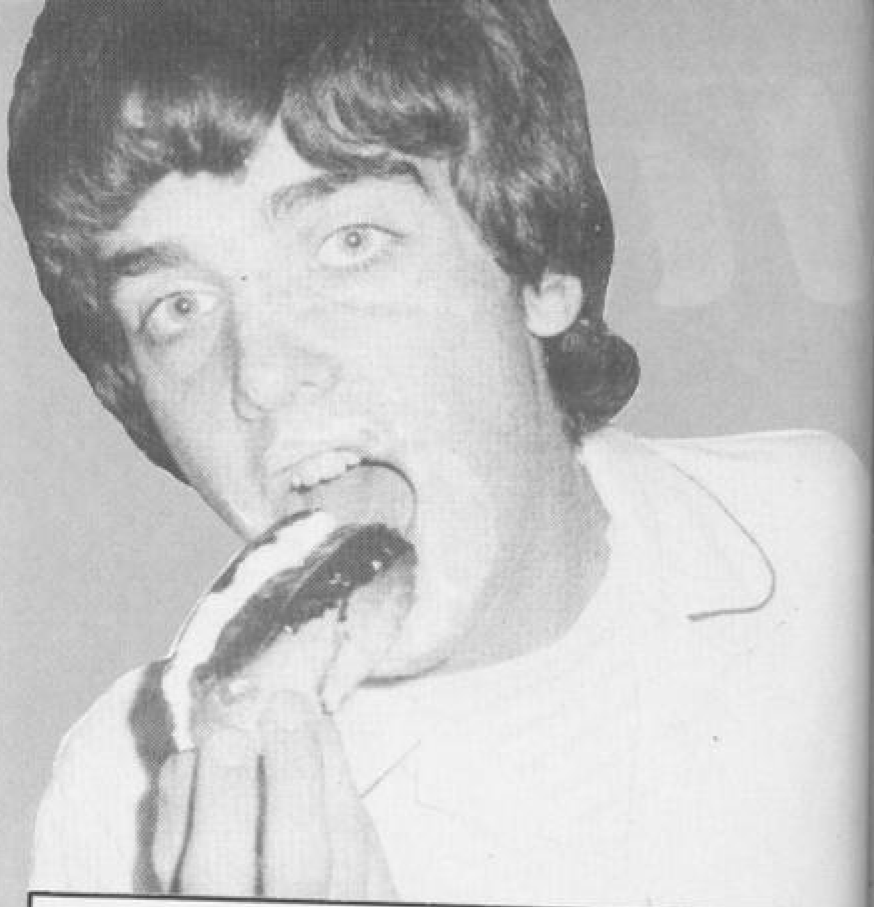
Feast

MIDNIGHT FEAST (for Oric-1)

By David Read

```
1 REM  PROGRAM : Midnight Feast
2 REM  AUTHOR  : David Reid
3 REM  MACHINE : Oric-1/Atmos
5 CLS:PAPER 0:INK 6
6 PRINTCHR$(20)"Storing data .."
7 DIM A(#C0)
10 GOSUB 2000 'Initialize values
20 GOSUB 3000 'User graphics
30 GOSUB 3200 'Store machine code
40 GOSUB 2700 'Hi-score table
50 GOSUB 2000 'Reset values
60 GOSUB 2100 'Print title screen
70 GOSUB 3500 'Play tune
80 GOSUB 2300 'Draw house
90 GOSUB 2500 'Draw food
100 DOKE CL,10000:C=0 ' start clock
105 PLOTOX,OY,74:PLOTOX,OY-1,73
108 REM *** the main loop ***
110 REPEAT
120 IF NOT JU THEN 130
125 NX=OX-1-R*2:NY=OY+1:GOTO 180
128 REM check key and move
130 ON A(PEEK(#208)) GOTO 150,160,170
140 FORI=1TO20:NEXTI ' short delay
145 GOTO440 ' no key pressed
150 NX=OX-1 ' move left
152 PLOT OX,OY,68:PLOT OX,OY-1,67
154 IF NOT R THEN 200
156 R=FALSE:GOTO440
160 NX=OX+1 ' move right
162 PLOT OX,OY,74:PLOT OX,OY-1.73
164 IF R THEN 200
166 R=TRUE:GOTO440
170 JU=TRUE ' jump up
172 NX=OX-1-R*2:NY=OY-1
180 PLOTOX,OY,66-R*6:PLOTOX,OY-1,65-R*6
198 REM check new position
200 OS=NS:OH=NH
210 NS=SCRN(NX,NY):NH=SCRN(NX,NY-1):FL=
CRN(NX,NY+1)
215 JU=((FL=32)OR(FL=77)OR(FL=78))
220 OK=((NS<>77)AND(NS<>78)AND(FL<>83)A
D(NS<95)AND(FL<95))
228 REM move man
230 IFNS=79THENNX=OX:NY=OY:NS=OS:NH=OH
240 TS=SCRN(OX,OY):TH=SCRN(OX,OY-1)
250 PLOTOX,OY,OS:PLOTOX,OY-1.OH
260 PLOTNX,NY,TS+2:PLOTNX,NY-1.TH+2
270 OX=NX:OY=NY
280 IFNH<89THEN330
288 REM eat some food !
290 S=S+(NH-88)*20:NS=32:NH=32
300 PLOT 9,2,STR$(S)
310 FOR I=70TO10STEP-7:SOUND1,I,6:PLAY1
0,1,10
320 NEXT I:PLAY 0,0,0,0
330 IF OK THEN 440
340 IF NS>94 THEN 1900 ' reached bed
348 REM you've hit something
350 IF FL=83 THEN 400 ' creaky floor
355 IF FL>94 THEN 1900 ' new frame
360 PLOT 30,26,CHR$(6)+"mieuw! "
370 FOR I=100 TO 250 STEP 15:SOUND 1,I,
 PLAY 1,0,1,10:NEXTI
380 FOR I=250 TO 60  STEP-8 :SOUND 1,I,
 PLAY 1,0,3,10:NEXTI
390 PLAY 0,0,0,0: GOTO 3700 ' caught
400 PLOT 30,26,CHR$(6)+"creak! "
410 FOR I=500 TO 200 STEP-10:SOUND 1,I,
0:PLAY 1,0,1,1000
420 PLAY 0,0,0,0:NEXT I
430 GOTO 3700
438 REM ok, update clock and counter
440 T%=INT(DEEK(CLOCK)/100)
450 IFT%>=INT(T)THEN550
460 T=T%:PLOT30,2,STR$(T)+" "
470 IFT>10THEN550
480 INK6 ' day dawns
490 IFT>0THEN550
500 PLOT30,26,CHR$(6)+"rrring!":INK4
510 FORI=1 TO 30:PLAY 0,0,0,0
520 FORJ=1TO9:NEXT J:PING: NEXT I
530 GOTO 3700 ' caught you
548 REM updated ok
550 C=C+1:IFC<7-NTHEN 600
560 C=0:CALL #400:REM move the cats
570 IF((SCRN(OX,OY)=77)OR(SCRN(OX,OY)=7
1)THENNS=SCRN(OX,OY):GOTO360
600 UNTIL FALSE
610 REM *** End of loop ***
1898 REM new frame
1900 T$="123456789ABCD&1&D&1&&":LT=LEN(
$):TE=1: OC=4
1910 GOSUB 3540:INK 4:BO=T*10*N
1920 S=S+BO:PLOT9,2,STR$(S)
1930 N=N+1:PLOT 20,2,STR$(N)
1940 PLOT 15,14,CHR$(3)+CHR$(8)+"BONUS"
STR$(BO)+CHR$(9)+CHR$(4)
1960 PLOT OX,OY,NS:PLOT OX,OY-1,NH
1970 GOSUB 2010 ' reset values
1980 GOSUB 3500 ' play tune
1990 GOSUB 2600 ' floorboards
1992 PULL
1995 GOTO 90 ' play this frame
1998 REM initialize values
2000 S=0:N=1:M=5
2010 T=99
2020 OX=8:OY=23:NX=OX:NY=OY
2030 OS=32:NS=OS:NH=OS:TS=OS:TH=OS
2040 JU=FALSE:R=TRUE:OK=TRUE
2050 FL=79:K=ASC(KEY$+" ")
2060 A(#AC)=1:A(#B4)=2:A(#9C)=3
2070 CLOCK=#276 ' internal clock
2080 KEYTM=#20E ' key repeat timer
2090 RETURN
2098 REM print title screen
2100 CLS:PAPER 0:INK 6
2110 A$=CHR$(10)+"Midnight Feast":PLOT
1,1,A$:PLOT 11,2,A$
2120 PLOT 13,4,CHR$(3)+"By D.Reid"
2130 PLOT 10,6,CHR$(4)+CHR$(96)+" copyr
ght 1984"
2140 FOR I=9 TO 13 STEP 2:PLOT 2,I,9:PL
T 4,I,8:PLOT 1,I,3
2150 PLOT 22,I,9:PLOT 24,I,8:PLOT 5,I,I
7:PLOT 21,I,3
2160 PLOT 25,I,I-7: NEXT I
```

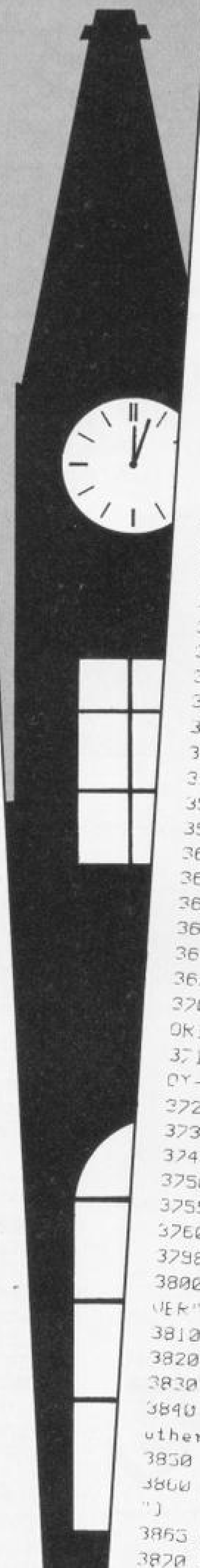
Continued overleaf



```
2170 PLOT 6,9, "biscuit   20":PLOT 3,9
89
2180 PLOT 6,11, "cheese    40":PLOT 3,1
,90
2190 PLOT 6,13, "cherries  60":PLOT 3,1
,91
2200 PLOT 26,9, "cocoa     80":PLOT 23,
,92
2210 PLOT 26,11,"banana   100":PLOT 23,
1,93
2220 PLOT 26,13,"pear     120":PLOT 23,
3,94
2230 PLOT 14,16,CHR$(1)+"CONTROLS"
2240 PLOT 10,18,CHR$(3)+"left arrow  LE
T"
2250 PLOT 10,20,CHR$(5)+"down arrow  RI
HT"
2260 PLOT 12,22,CHR$(6)+"up arrow  JUMP

2270 PLOT 4,25,CHR$(12)+"Press <space>
o start game .."
2280 K$=KEY$:REPEAT:RN=RND(1):UNTIL KEY
=" "
2285 PLOT 4,25,0
2290 RETURN
2298 REM draw house
2300 CLS:PAPER 0:INK 0
2310 PLOT 4,26,CHR$(6)+"Just a sec ..."
2320 FL$="PPPP": FOR I=0 TO 24
2330 PLOT 2,I,9:FL$=FL$+"P":NEXT I
2340 FOR I=5 TO 37:PLOT I,24,79:PLOT I,
,80:NEXT I
2350 GOSUB 2600 ' draw floorboards
2355 REPEAT:CALL#400:UNTIL(PEEK(#4AB)=#
7):CALL#400
2360 FOR I=9 TO 33:PLOT I,0,86:NEXT I
2370 FOR I=0 TO 4: PLOT 8-I,I,84:PLOT 3
+I,I,85
2380 PLOT 36-I,9+I,81:PLOT 6+I,14+I,82:
LOT 36-I,19+I,81
2390 PLOT 5,4+I,79:PLOT 37,4+I,79:PLOT
,9+I,79
2400 PLOT 37,9+I,79:PLOT 5,14+I,79:PLOT
37,14+I,79
2410 PLOT 5,19+I,79:PLOT 37,19+I,79: NE
T I
2420 PLOT 34,1,9:PLOT 34,2,9:PLOT 8,1,8
PLOT 8,2,8:PLOT 35,2,4
2430 PLOT 6,7,95:PLOT 6,8,96:PLOT 7,8,9
:PLOT 8,8,97:PLOT 9,8,98 ' bed
2440 FOR I=4 TO 22 STEP 5:PLOT 3,I+1,6
2450 PLOT 3,I+2,3:PLOT 3,I+3,5:PLOT 3,I
4,1: NEXT I
2455 PLOT37,3,82:PLOT37,2,52
2460 INK 4:PLOT 9,1,"Score      Night
  Time"
2470 PLOT5,26,"Pocket Money _":PLOT 9,2
STR$(S):PLOT 20,2,STR$(N)
2480 PLOT 30,2,STR$(T):PLOT19,26,STR$(M
+".00"
2490 RETURN
2498 REM draw food
2500 FOR I=12 TO 30:PLOT I,6,32:PLOT I,
1,32
2510 PLOT I,16,32:PLOT I,21,32:NEXT I
2520 FOR I=1 TO N*4+15
2530 R1=INT(RND(1)*18+12):R2=INT(RND(1)
4)*5+6
2540 IF((SCRN(R1-1,R2)>32)OR(SCRN(R1+1,
2)>32)) THEN 2530
2550 PLOT R1,R2,INT(RND(1)*6)+89
2560 SOUND1,R1+R2,9:PLAY1,0,1,10
2570 PLAY 0,0,0,0: NEXT I
2580 GARBAGE=FRE("")
2590 RETURN
2598 REM draw floorboards
2600 PLOT 6,19,FL$:PLOT 8,14,FL$:PLOT 6
9,FL$
2610 PLOT 7,24,83:PLOT 7,19,83:PLOT 35,
4,83:PLOT 35,14,83
2620 FOR I=1 TO N*2+6
2630 R1=INT(RND(1)*18)+12:R2=INT(RND(1)
3)*5+9
2640 IF((SCRN(R1-1,R2)>80)OR(SCRN(R1+1,
2)>80)) THEN 2630
2650 PLOT R1,R2,83
2660 NEXT I
2670 RETURN
2698 REM set up hi-scores
2700 DIM HI(8),HI$(8)
2710 FOR I=1 TO 8
2720 :HI(I)=(11-I)*200:HI$(I)="Oric"
2730 NEXT I
2740 RETURN
2748 REM swap hi-scores
2750 Z=HI(I):HI(I)=HI(I+1):HI(I+1)=Z
2760 Z$=HI$(I):HI$(I)=HI$(I+1)
2770 HI$(I+1)=Z$
2780 RETURN
2798 REM display hi-score table
2800 CLS:PAPER 0:INK 7
2810 A$=CHR$(6)+CHR$(10)+"Midnight Feas
 "+CHR$(5)+"Hi-Scores"
2820 PLOT2,1,A$:PLOT2,2,A$
2830 FOR I=1 TO 8
2840 J=I+(I>6)*5
2850 Z=I*2+3
2860 PLOT7,Z,STR$(I):PLOT7,Z,J
2870 PLOT12,Z,STR$(HI(I)):PLOT12,Z,J
2880 PLOT10,Z,">":PLOT21,Z,HI$(I)
2890 NEXT I
2895 RETURN
2898 REM enter new hi-score
2900 PLOT6,22,CHR$(6)+"Please enter you
name"
```

```
2910 FORI=1TO23:PRINT:NEXT I
2920 K$=KEY$: POKE #26A,3:PRINT
2930 INPUT N$
2940 PRINTCHR$(17)CHR$(30)CHR$(6)
2950 IF LEN(N$)>16THENN$=LEFT$(N$,16)
2960 HI(8)=S:HI$(8)=N$:SWAP=2750
2970 FOR I=7 TO 1 STEP-1
2980 IF HI(I)<HI(I+1)THEN GOSUB SWAP
2990 NEXT I
2995 GOTO 2800 ' display new table
2998 REM user defined graphics
3000 FOR I=65 TO 98
3010 READ D$
3020 FOR J=1 TO 15 STEP 2
3030 V=VAL("#"+MID$(D$,J,2))
3040 P=#B800+I*8+(J-1)/2
3050 POKE P,V
3060 NEXT J,I
3070 RETURN
3100 DATA 0C1E363E1E060C18
3101 DATA 060E14040C0B0918
3102 DATA 0C1E363E1E061C04
3103 DATA 261D040E12123206
3104 DATA 060F1B1F0F030E02
3105 DATA 070B13020607050C
3106 DATA 0C1E1B1F1E180C06
3107 DATA 181C0A080C342406
3108 DATA 0C1E1B1F1E180E08
3109 DATA 192E080C12123318
3110 DATA 183C363E3C301C10
3111 DATA 383432101838280C
3112 DATA 0000002939 3E0E0A
3113 DATA 00000025271E1C14
3114 DATA 001E003300 1E0033
3115 DATA 001E003300000000
3116 DATA 3F3E3C3C38303020
3117 DATA 3F1F0F0F07030301
3118 DATA 0000003F003F0000
3119 DATA 0102020408101020
3120 DATA 2010100804020201
3121 DATA 3F00000000000000
3122 DATA 3F20202020202020
3123 DATA 3F01010101010101
3124 DATA 000C1E3F3F3F1E0C
3125 DATA 00002030383C3E00
3126 DATA 000001020A323202
3127 DATA 1008003F3D3D3E3C
3128 DATA 000818303030180C
3129 DATA 00000408183C3C18
3130 DATA 00002020 2E3F3F3E
3131 DATA 3F2A2A2A3F202020
3132 DATA 3F2A2A2A3F000000
3133 DATA 3E2A2A2A3E020202
3198 REM store machine code
3200 READ AD : REM works on any oric
3205 ATMOS=(DEEK(#FFFE)=580)
3210 REPEAT
3220 :READ D$
3230 :REPEAT
3240 : V=VAL("#"+D$)
3250 : POKE AD,V
3260 : AD=AD+1 :CHK=CHK+V
3270 : READ D$
3280 :UNTIL D$="OK"
3290 :READ AD
3300 UNTIL AD=#FFFF
3305 IF ATMOS THEN GOTO 3320
3310 FOR AD=#4A0 TO #4A3 ' Oric-1
3315 POKE AD,PEEK(AD)+1  ' changes
3317 NEXT AD
```



```
3320 IF CHK=9722 THEN RETURN
3328 REM checksum error
3330 CLS:PAPER7:INK0
3340 PRINTCHR$(6)CHR$(17)CHR$(20)
3350 PRINT"Machine code error"CHR$(10)
3360 PRINT"Check the data .."
3370 LIST 3400-34.3
3380 STOP
3400 DATA#400 : REM move cats
3401 DATA A2,03,BD,A0,04,85,50,BD
3402 DATA A4,04,85,51,BC,A8,04,A9
3403 DATA 20,91,50,BD,AC,04,30,13
3404 DATA C0,17,F0,08,C8,58,5D,A8
3405 DATA 04,4C,3D,04,A9,FF,9D,AC
3406 DATA 04,D0,09,C0,00,F0,03,88
3407 DATA 98,9D,A8,04,A9,4D,D0,07
3408 DATA A9,01,9D,AC,04,A9,4E,91
3409 DATA 50,CA,10,BE,60,OK
3410 DATA#4A0 : REM data table
3411 DATA F3,B8,83,48,BC,BD,BE,BF
3412 DATA 01,07,0F,16,01,FF,01,FF
3413 DATA OK,#FFFF
3498 REM play a tune using T$
3500 T$=""
3510 T$=T$+"1661166568833 8&&&"
3520 T$=T$+"6551135113BA86&&&"
3530 TE=3:OC=4:LT=LEN(T$)
3540 FOR I=1 TO LT
3550 :NT=VAL("#"+MID$(T$,I,1)):O=OC
3560 :IF NT>12 THEN O=OC+1:NT=NT-12
3570 :IF NT=0 THEN 3610
3580 :PLAY 0,0,0,0
3590 :MUSIC 1,O,NT,8:MUSIC 2,O-1,NT,4
3600 :PLAY 3,0,1,1000
3610 :WAIT TE
3620 NEXT I
3630 PLAY 0,0,0,0
3640 RETURN
3698 REM caught you
3700 PAPER 3:FORI=1TO99:NEXT I:PAPER 2:F
ORI=1TO99:NEXT I:PAPER 0
3710 PLOT 30,26,0:PLOT OX,OY,NS:PLOT OX,
OY-1,NH:INK 4
3720 M=M-1:PLOT19,26,STR$(M)+".00"
3730 IF M=0 THEN 3800 ' game over
3740 GOSUB 2010 ' reset values
3750 PLOT 30,2,STR$(T)+" "
3755 PULL
3760 GOTO 100 ' restart the main loop
3798 REM game over
3800 PLOT 16,14,CHR$(12)+CHR$(3)+"GAME O
VER"+CHR$(9)+CHR$(4)
3810 WAIT 400:K$=KEY$:PULL
3820 GOSUB 2800 ' display hi-scores
3830 IF S>HI(8) THEN GOSUB 2900
3840 PLOT 6,22,CHR$(3)+"Press <1> for a
nother game"
3850 PLOT 12,23,CHR$(5)+"<2> to finish"
3860 REPEAT:GET K$:UNTIL(K$="1")OR(K$="2
")
3865 GARBAGE=FRE("")
3870 IF K$="1" THEN 50
3880 CLS :PAPER 7:INK 0
3890 PRINTCHR$(6)CHR$(17)CHR$(20);
3900 END
3999 :
4000 REM program by David Reid
4010 REM copyright (c) 1984
```

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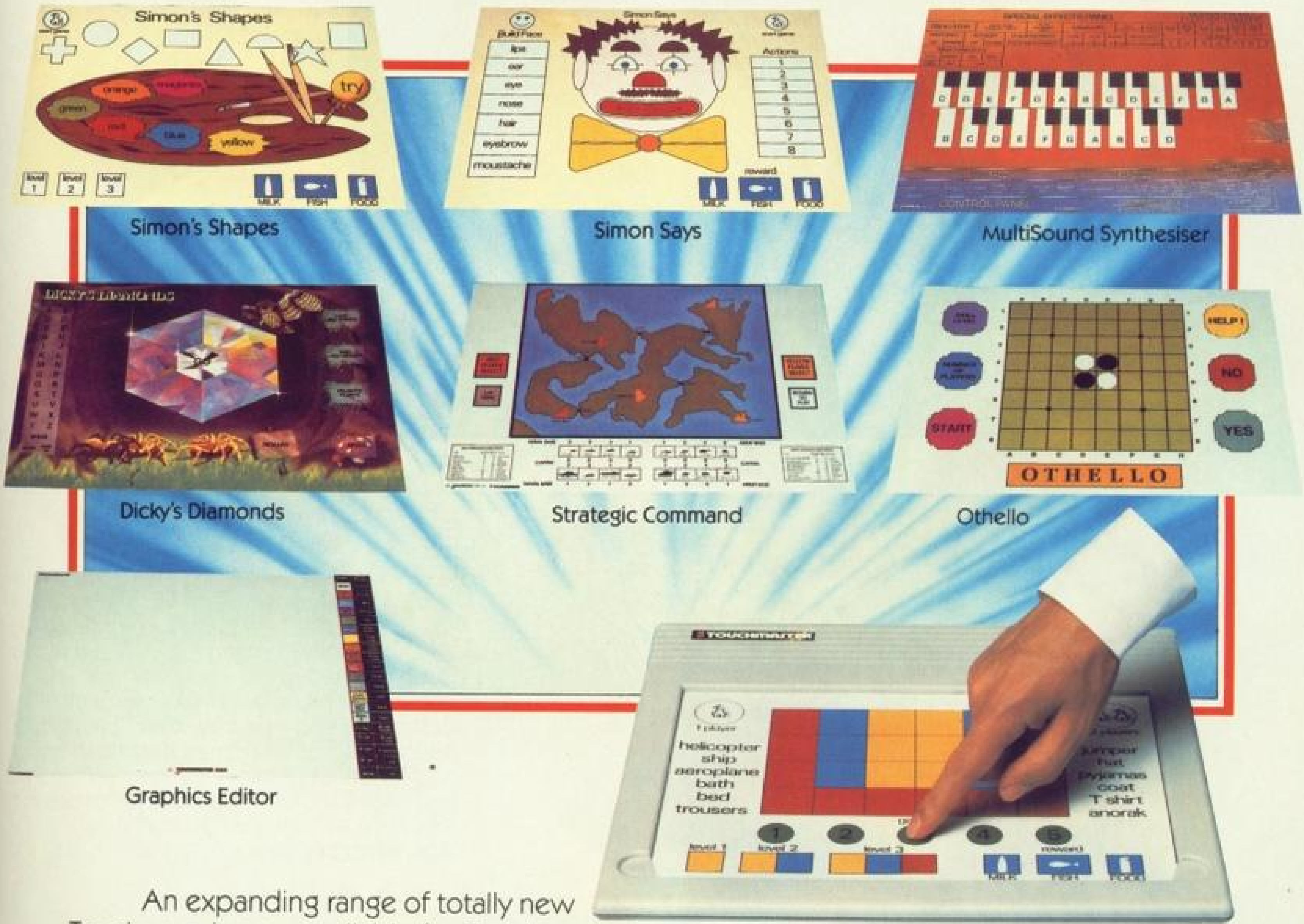
Minotaur's Maze

Continued from page 83

```
  127ENDPROC
  128:
  129:
  130DEFFNcolour(A%,B%)
  131LOCAL X%,Y%
  132X%=64*A%+16:Y%=1010-(32*B%)
  133=POINT(X%,Y%)
  134:
  135:
  136DEFPROCMOVE_MONSTERS
  137COLOUR2
  138FOR mon%=0TOnmon%
  139IFMX%(mon%)=XF% ANDMY%(mon%)=YF% PR
INTTAB(MX%(mon%),MY%(mon%));CHR$242 ELSE
 PRINTTAB(MX%(mon%),MY%(mon%));" "
  140S%=x%-MX%(mon%):T%=y%-MY%(mon%)
  141IFS%>0 ANDFNcolour(MX%(mon%)+1,MY%(
mon%))<>3 MX%(mon%)=MX%(mon%)+1 ELSE IFS
%<0 ANDFNcolour(MX%(mon%)-1,MY%(mon%))<>
3 MX%(mon%)=MX%(mon%)-1 ELSE GOTO143
  142GOTO144
  143IFT%>0 ANDFNcolour(MX%(mon%),MY%(mo
n%)+1)<>3 MY%(mon%)=MY%(mon%)+1 ELSE IFT
%<0 ANDFNcolour(MX%( mon%),MY%(mon%)-1)<
>3 MY%(mon%)=MY%(mon%)-1
  144PRINTTAB(MX%(mon%),MY%(mon%));CHR$2
40
  145IFx%=MX%(mon%) ANDy%=MY%(mon%) PROC
DEAD:mon%=nmon%
  146NEXT
  147ENDPROC
  148:
  149:
  150DEFPROCDEAD
  151SOUND0,-15,20,10
  152dead%=TRUE
  153lives%=lives%-1
  154ENDPROC
  155:
  156:
  157DEFPROCNEXTLEVEL
  158level%=level%+1
  159IF DIFF%<20 THEN DIFF%=DIFF%+1
  160IF nmon%<5 THEN nmon%=nmon%+1
  161IF level%MOD5=0 THEN lives%=lives%+
1:SOUND 1,-15,100,10:SOUND1,-15,200,5:SO
UND 1,-15,100,10
  162ENDPROC
  163:
  164:
  165DEFPROCPREP
  166dead%=FALSE
  167FOR mon%=0 TO nmon%
  168REPEAT:MX%(mon%)=RND(15)+4:MY%(mon%
)=RND(28):UNTIL SQR((MX%(mon%)-XS%)*(MX%
(mon%)-XS%)+(MY%(mon%)-YS%)*(MY%(mon%)-Y
S%))>5
  169NEXT
  170ENDPROC
  171:
  172:
  173DEFPROCSCORE
  174CLS
  175COLOUR2
  176PRINTTAB(2,10);"YOU HAVE SCORED"
  177PRINT'"           ";sc%
  178PRINTTAB(4,14);"ON LEVEL ";level%
  179IF lives%=0 THEN PRINTTAB(3,19);"YO
U ARE DEAD!" ELSE PRINTTAB(0,16);"YOU HA
VE ";lives%;:IF lives%=1 THEN PRINT;" MA
N LEFT." ELSE PRINT;" MEN LEFT."
  180IF NOT dead% SOUND&0001,0,0,10:SOUN
D1,1,100,20
  181FOR WAIT=0 TO 2000:NEXT
  182ENDPROC
  183:
  184:
  185DEFPROCEND
  186CLS
  187PRINTTAB(10,12);"PRESS ANY KEY"
  188*FX15,0
  189A=GET
  190RUN
  191ENDPROC
  192:
  193:
  194DEFPROCINSTRUCT
  195PRINTTAB(10,5);"MINOTAUR'S MAZE"
  196PRINTTAB(10,6);"^^^^^^^^^^^^^^^"
  197PRINTTAB(0,10);"  You are lost in t
he maze in Crete.Be  careful that you ar
e not eaten by a     Minotaur.Extra poin
ts are given when    you reach the exit
and more points can  be gained by collec
ting the Greek urns."
  198PRINTTAB(3,17);"Controls are the Z,
X,/,: keys."
  199PRINTTAB(7,20);"DO YOU WISH SOUND?"
  200*FX15,0
  201A$=GET$
  202*FX210,0
  203IF A$="N" THEN *FX210,1
  204ENDPROC
  205:
  206:
  207DEFPROCDISPLAY
  208COLOUR2
  209PRINTTAB(3,7);CHR$241;"  -  YOU"
  210PRINTTAB(3,9);CHR$242;"  -  EXIT"
  211PRINTTAB(3,11);CHR$240:PRINTTAB(6,1
1);"-  MINOTAUR"
  212COLOUR1
  213PRINTTAB(3,13);CHR$243:COLOUR2:PRIN
TTAB(6,13);"-  URN"
  214PRINTTAB(3,24);"PRESS ANY KEY"
  215A=GET
  216ENDPROC
  217ENVELOPE1,20,20,-30,10,10,10,0,0,0,
0,0,0,0
  218SOUND1,1,100,20
  219SOUND1,2,84,50
  220ENVELOPE2,32,-16,8,3,1,2,0,0,0,0,0,
0,0
  221:
  222:
  223DEFPROCGET_SET
  224COLOUR1
  225FOR S%=0 TO 5+RND(5):PRINTTAB(RND(1
5)+3,RND(28));CHR$243:NEXT
  226COLOUR2
  227PRINTTAB(XS%,YS%);CHR$241
  228PRINTTAB(XF%,YF%);CHR$242
  229SOUND1,2,84,200
  230*FX15,1
  231G=GET
  232ENDPROC
>RUN
MINOTAUR'S MAZE
^^^^^^^^^^^^^^^
  You are lost in the maze in Crete.Be
careful that you are not eaten by a
Minotaur.Extra points are given when
you reach the exit and more points can
be gained by collecting the q  -  YOU
r  -  EXIT
p
-  MINOTAUR
s
-  URN
PRESS ANY KEY
```

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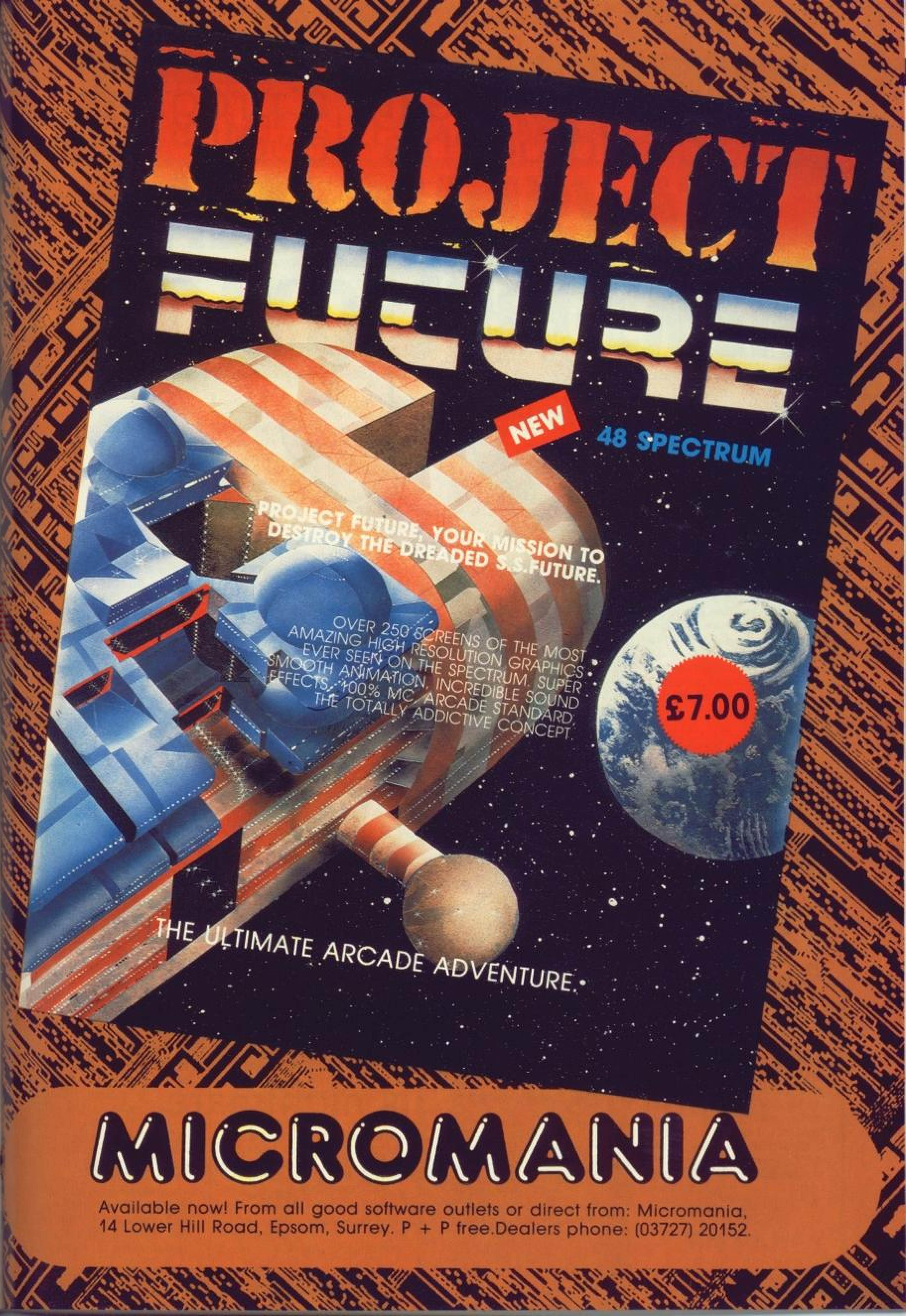
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CLASSIC GAMES OF OUR TIME

No 8: MISSILE COMMAND (ATARI)

ABM VS. MIRV AT THE DAY OF JUDGEMENT

SO IT ARRIVES, the moment we all dread: Armageddon! High above the panic-stricken inhabitants of Planet Earth, the stratosphere is being ripped asunder by thousands of gleaming projectiles. Four minutes left in which to construct a fall-out refuge of old paperbacks and lay in a few warm coats for the nuclear winter . . .

But no! For this is a wish-fulfilment fantasy (of sorts). Deep underground, carefully maintained mechanisms awaken. Hunched figures tense over radar screens and delicate electronic fingers probe the sky. This is *Missile Command*, central control centre for the widely flung net of Anti-Ballistic Missile sites. Before long the incoming warheads are just so many expanding clouds of debris in the near-vacuum of the upper atmosphere. Sighs of relief? No time. Because here comes the second strike . . .

Galosh

Of course we all know there are no ABM systems in the world, barring a ring of rather obsolescent Galosh sites around Moscow. They were all banned by the SALT I agreement, good thing too. That proved no deterrent to games designers, and around 1978 the arcades began to resonate fo frustrated screams of 'Sod it, I've been MIRVed!' and 'Curses! Three cities taken out!' And so the language of the strategic planners found its way to street level.

Surprisingly, few people found the subject matter of MissCom too forbidding, mainly because it was the best game around. Pre-*Missile Command* games, if we can think that far back, were nearly all variations on the classic *Space Invaders* scenario, including *Galaxian Ambush*, and many clones. As any fule kno, in these, lots of little malevolent wriggly things descend from the screen-top, usually dropping bombs, boiling oil, flower-pots and other paraphernalia on the way. The player is equipped with a little upward-firing laser gun which can be trundled right/left. Controls, on the arcade variants at least, are three push-buttons.

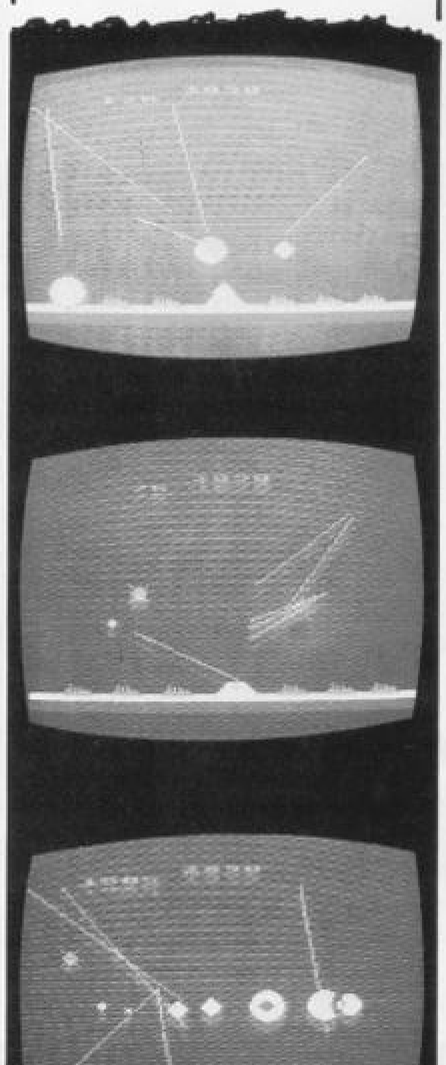
I harp on these older games because *Missile Command* was something of a fundamental departure from this formula. Earlier games were basically one dimensional — only the player's horizontal co-ordinate which counted. Missile Command targeting ranges over the entire screen. Both X and Y axes come into play, and that's a whole new ball game.

When the game opens, you are equipped with one or more ABM sites, protecting six Identikit cities, all this at the base of the screen. Enemy missiles come in at any angle from above, and to destroy one, an ABM must be exploded in its path. The player moves a cross-hair around the screen, and when the fire-button is pressed, the ABM sets out for the current cross-hair position, where it detonates — a 'fire and forget' system.

Trackball

Push-button control just wasn't good enough for the two-dimensional movement involved, so Atari introduced an entirely new user interface, the trackball. Nothing more than a plastic sphere mounted on a base of rheostats, the trackball was the fore-runner of the desk-top 'mouse'. It's a brilliantly simple idea, and the smoothness of movement you get playing *MissCom* must have contributed hugely to its popularity.

So back to the action. Wouldn't be so bad if the incoming mail was single warhead, but in line with modern ICBM technology, the missiles are frequently MIRVs (Multiple Independent Re-entry Vehicles). This means that if you let them get too low, they split into a number of independently targetted warheads, which are an absolute pig to clear. Up goes the megadeath count. Killer satellites have a nasty habit of trundling across the screen and MIRVing.



Welcome to the End of the World. Above are various stages in its final eclipse. Nuclear Winter follows. (But this, needless to say, isn't shown.)

Worse — for the arms race continues — are the MRVs (Manoeuvrable Re-entry Vehicles); these little devils dodge your counter-explosions and force you to waste defence missiles seeing them off. At the end of each wave of incoming missiles, bonuses are paid out on the basis of unused ABMs and living cities. If there are no living cities, you, and presumably civilisation as we know it, have lost.

Defender

You have to defend your ABM sites as well as the cities, and this is where the original arcade game and the computer variants differ. In the arcade there were three sites, with a separate fire button for each, which made life more complex. If a missile site was taken out, it stayed taken out until the end of the frame — Micro variants generally have only one site, and if it's zapped it usually only means that defensive operations are suspended for a second or two.

Simplicity, right down to the elegant trackball, is probably the key to *MissCom*'s success. But is there more? Does this game fulfil some inner need in people, a response to the feelings of impotence brought on by the prospect of all-out nuclear killozap? For *Missile Command*, for a short period of time, gives us the illusion that we can protect ourselves. Truly, we can be heroes, just for one play . . .

FIN FAHEY



Multi-user Forth

BBC

ALDIS learns the language of the Gods . . .

IT WAS NO good, there I was with 3000 widgets hardwired in to the back of a BBC, all doing different things and all clamoring for attention at the same time. Everything was going wrong. In the beginning were a few widgets, providing the essentials in life; strong, black coffee every half hour, gin and tonic intravenous drips, all driven from BASIC and everything was fine. Then along came more and more ambitious projects until finally, around the time of the great flea heart rate monitor, BASIC slowed to a crawl and finally keeled over onto its back with its legs in the air. Obviously a new approach was required so I switched to coding in assembler. After about an hour of fervent key-plonking I keeled over on my back with my legs in the air. This was serious. But wait. What was that? Was it a bird? Was it a plane? Was it Superman? No, it was some other lunatic in blue tights and the legend 'Skywave' emblazoned across his chest coming over the horizon at Mach 5 screaming 'This is a job for Multi-Forth 83' in a voice that shook the very foundations.

I tried to explain to him that I was very busy and would he mind going and sticking his head down a sewer, but he was very persistent, so, for the sake of a quiet life I sat down and listened. After a few minutes I was interested enough to ask for a demonstration. He stood up, pointed dramatically at the BBC and screamed 'SKYWAVE' loud enough to eat. There was a blinding flash of lightning followed by a deafening clap of thunder and when I climbed down from the ceiling the VDU had cleared and a new message was displayed:-

MULTI-USER FORTH



FORTH is an interesting language, Skywave's implementation even more so. The reason for this, as the title suggests, is its facility for multi-tasking, which is just another way of saying it does a lot of things at the same time. Of course you can do that from the BBC's assembler using interrupts if you like but Multi-user FORTH does it a lot easier. How? I shouldn't have asked. Our muscle-bound friend in the corner made another of his dramatic gestures and the world exploded again in a flash of light — I wish he wouldn't keep doing that — and a manual the size of a small suitcase dropped into my lap alongside a demonstration game of *Othello* written in the language. 'Find out for yourself' he boomed. Ask a silly question . . . I tried the game first. It beat me three times on the trot so I ignored it — maybe it would go away — and turned my attention to the manual.

Three weeks later . . .

Standard Configuration

Multi-User FORTH is a standard FORTH 83 configuration onto which is bolted a host of goodies which make the most of the unique features of the BBC, not least of which is the above mentioned multi-tasking.

As I said before FORTH is an interesting and very flexible language, sort of half compiled, half interpreted which means it's fast, like a compiled language but at the same time you can execute routines by direct command line in BASIC which makes it very interactive. It hinges around the creation of 'words'. Unlike other languages which have an unchangeable set of key-words, FORTH has a set of resident words and commands and then gives you the means to create your own words to do just about anything you want. The demonstration game was a good example. All the subroutines were first defined as words then all these sub-words lumped together into one word, 'OTHELLO'. Typing 'OTHELLO' at the keyboard set the whole game off just as though it were a keyword. Try that in BASIC and all you get is an error message telling you you're an idiot.

Multi-Tasking

Skywave's multi-tasking setup is VERY powerful and, more important, simple to use, capable of handling up to 28 tasks at once — depending on available memory — each with its own clock. Not only can you set them all off at once but you can make any of them start off by themselves after a preset interval or let them lie dormant with just a simple command. Naturally if you're running a lot of programs at once or accessing discs it's going to slow down a bit but FORTH runs faster than a rat up a drainpipe anyway so you've not a lot to worry about.

Built-in Assembler

This version of FORTH also has a built in 6502 assembler which can be used to define words containing sections of machine code if you need even more speed but be warned it's like trying to speak Russian backwards, largely because of the Reverse Polish Notation (RPN). For those not in the know RPN is a kind backward maths. The reason for this is FORTH's extensive use of a first in last out stack for speed. For arithmetical operations you get something like:-

'2 3 + .'

which means nothing more than add together 2 and 3 then display the answer on the screen. What happens is that first the 2, then the 3 get pushed on top of the stack, then the '+' tells it to grab the first two numbers off the stack, add them together and bung the answer back again. The '.' tells it to pull the top item off the stack and display it. FORTH is like that the whole way through — arguments come before the word rather than after it — and at first it's a bit like putting the reins on the wrong end of a horse, difficult and fraught with danger, but after a while it becomes second nature.

Disc Extension

The guy who wrote this is David Husband who Spectrum users will probably know for his ZX81-FORTH. This time he's gone well over the top. Multi-user FORTH uses a full 16K ROM and he still didn't have enough space, so there's also an extension available on disc. It should contain, among other things, a multi- tasking debugger allthough they're not sure yet 'cos they ain't written it.

Electron users will be pleased to hear that they've not been ignored on this one, there's a similar ROM for them. All they need now is a socket to put it in.

Multi-FORTH 83 for the BBC and Electron £45.00 + p&p + VAT.

Multi-FORTH 83 De-Luxe system (disc) plus Advanced User Guide (BBC only) £40.00 + p&p + VAT.

BIG K's US report from MIKE GOLD . . .

ZIP CODE

Waiting for the Crimbo Crunch!

THERE isn't much time to make any pre-game adjustments, so hardware and software manufacturers alike are scrambling to complete their Christmas preparations and go out and grab their share of the pie.

For a lot of companies, Christmas 1984 is do-or-die: if they managed to hang in this long, they must survive the Christmas season with substantial profits. If they are in the hole, strong sales can pull them out. If they're breaking even, weak sales can blow them out of the box.

And nobody's *really* strong — just ask Manny Gerard, the man who, in 1976, bought his company a growing firm called Atari.

Revamped Adam

This winter is likely to be the last proving ground for Coleco's Adam. Now in its third revamped form and backed by massive promotion and advertising campaigns, a massive Adam failure could sound the death-knell for Coleco, a giant — and rather ancient — toy and recreation concern..

It could also be the last season for the IBM PCjr. The Junior has yet to set the world on fire, and IBM recently did a major revamp on the watered-down PC. They bucked up the memory and added a real keyboard — the improvements and price reductions indicate IBM may have to sell the machine at a loss in order to compete with Commodore and Apple.

Junior's stuck between a rock and a hard-place. It is priced like an Apple II or a souped-up C-64, yet it is stuck with IBM's "business-only" image. It simply isn't very appealing to anyone who isn't a businessman or a hacker — and these types would rather have a "real" computer like a PC, a Macintosh, or an Apple II with all the bells and whistles.

Indeed, the ongoing flood of computer magazine failures (the U.S. computer magazine market, like the software field, is glutted with far too many publications) has managed to take in its undertow each and every magazine dedicated to the PCjr. owner: If you possess a Junior, you have to read one of the many PC-oriented magazines to keep up with your machine.

Two companies are not particularly dependent on Christmas sales: Apple, and, oddly enough, Atari.

Apple's still got a very solid item in the II series (IIe and the new IIc, which has enjoyed fairly respectable sales). For those with more money and/or heavier needs, Apple's Macintosh is still selling like hot cakes.

In fact, now that IBM has standardized both their PC and PCjr. at 256K RAM, Apple has managed to lay their hands on fistfuls of 256K chips — this October, they dropped the price of the 128K Mac a bit and started selling, at a somewhat higher price, 512K "Fat Macs". Business software manufacturers jumped for joy ... as IBM just moaned.

128K Mac owners need not worry — in mid-Autumn, Apple will be offering $995.00 upgrades to 512K, and they're throwing in two eagerly-awaited programs into the deal for "free".

Atari's not sweating year's end. They're continuing to produce 2600's and 800 XL's, and have dropped the price to $35.00 and $150.00 respectively. They are not dumping hardware — you cannot produce unprofitable machines if you're forced to dump. Atari's entire production has been committed to just a handful of huge chain toy and department stores.

Just a few weeks ago, it looked like Atari wasn't going to survive a major cash flow crisis. But with crafty financing and savvy organization, Atari is talking about profitability by year's end.

Atari Pull Fat From Fire

Once again, Atari is pulling its fat out of the fire. The additional hardware sales are going to support a ton of software, so gamers should not count Atari out just yet.

So what's ahead for the survivors? After Christmas, the Japanese launch their third U.S. invasion (following Pearl Harbor and the compact car) — the eagerly-awaited MSX machine. This powerful, inexpensive system is expected to give Commodore and Atari a serious run for the money — and maybe the Apple II series, as well.

Commodore must be particularly distressed. Their C-64 is such a continuously strong seller, they have been unable to get a more powerful unit on the market. The C-64 is a real winner but it's standing still in the water. In computers, bigger is better, and today's Really Big Deal could be next year's sitting duck. Just ask Coleco.

STATESIDE CHATTER

There's a trend towards uniform games packaging: 8" square, either in an Atari-like box-package format or in a sort of record album-folder format. That will make the dealers real happy; the mess of awkwardly sized packages makes their shelves look like Zoo Parade.

The most eagerly-awaited game? It appears to be an adaptation of *Mad Magazine*'s extremely long running "Spy Vs. Spy" series. The feature started up shortly after Fidel Castro came into power 25 years ago (it predates the James Bond movies). The game comes from First Star Software, in a joint move with Warner Software. The latter, of course, is Warner Communications' post-Atari re-entry into the field.

Lots of games are out now for the Macintosh, including a number of popular items like *Frogger*, *B.C.'s Quest For Tires*, and the entire Zork series. An "original" game for the Mac is nothing more than an extremely clever adaptation of Centipede called *Mouse Stampede*, from Mark of the Unicorn (great name, hey?).

Mouse

Mouse Stampede is a lot of fun. Gamers use the hand-held mouse as the trackball, so you can move the cursor and fire all with the same hand. It isn't as quick as the traditional trackball, but it is a blast.

So what's big Stateside? Well, the fastest rising new games are *Sky Fox*, and *Realm of Impossibility*, both from Electronic Arts (the former is a role-playing game, the latter an adventure thriller), *Sea Stalker* from Infocom, and *HES Games*, from H.E.S. of course. This modestly-titled package is, hopefully, the last in a mammoth series of sports games from nearly everybody on Earth — all to capture on whatever momentum was provided by the Los Angeles Olympics.

And the popular oldtimers? Sublogic's *Flight Simulator II* simulation game is still going strong; Microsoft's *Flight Simulator I* is hanging in, too. Epyx's *Summer Games* and Electronic Art's *Julius Erving and Larry Bird* (U.S. professional basketball stars) *Go One-On-One* are also moving rapidly; maybe I was a bit premature in my deep desire for an end to all the sports games. At least these two are selling.

Computer games are a lot of fun, but if it's sports action you're craving for, you owe it to your body to get from under the chips and get onto the playing field.

And that's today's public service message from America.

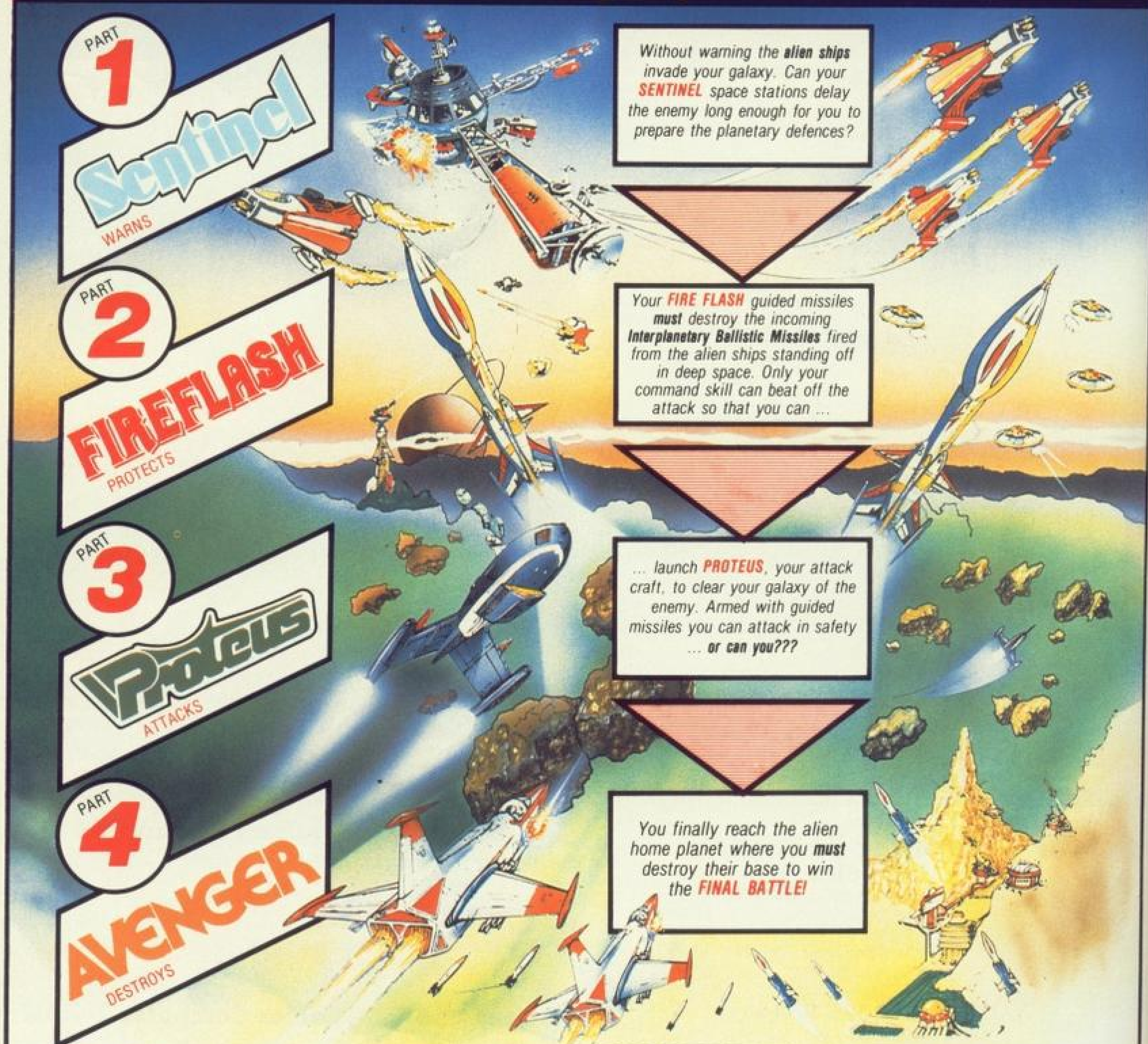

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DATELINE EARTH

For all you jet-setting, Amex card-carrying hacker types, we present the perfect time-keeping companion for all those places in the world you're bound to visit. This program comes in two parts — keep them separate. Listing 1 loads first, followed by Listing 2. Then enter the time you need to know on the international scene. For BBC by J. Humphreys



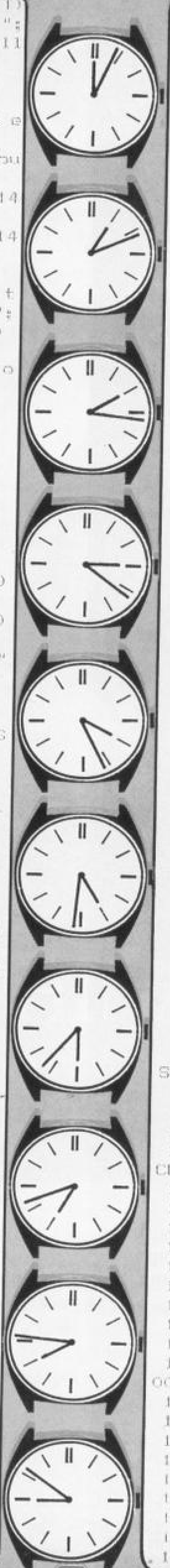

```
 10 REM ********************
 20 REM ***              ***
 30 REM *** WORLD TIMES ***
 40 REM *** =========== ***
 50 REM ***              ***
 60 REM *** written  by ***
 70 REM *** J.Humphreys ***
 80 REM ***              ***
 90 REM ***  Listing 2  ***
100 REM ***              ***
110 REM ********************
120 VDU26
130 PRINTTAB(6,28);"Press SPACE BAR to
 continue"
140 B=GET
150 IF B<>&20 THEN 140
160 ON ERROR PROCreport:GOTO 180
170 *KEY 10 O.|M L.|M
180 MODE 7
190 VDU 23;11;0;0;0;0
200 FOR A=1 TO 25
210 PRINT CHR$(131);CHR$(157);CHR$(133
)
220 NEXT A
230 FORA%=1TO2:PRINT TAB(13,A%);CHR$(1
29);CHR$(141);"WORLD TIMES":NEXT
240 PRINT TAB(12,3);CHR$(134);"=======
======="
250 VDU28,3,9,39,4
260 PRINT" This program will ask you t
o enter  the  present  time , ";
```

Prog continues on

Listing 1. Type this in first. Keep separate from Listing 2.

```
 10 REM ********************
 20 REM ***              ***
 30 REM *** WORLD TIMES ***
 40 REM *** =========== ***
 50 REM *** written  by ***
 60 REM *** J.Humphreys ***
 70 REM ***              ***
 80 REM ***   27/7/84    ***
 90 REM ***              ***
100 REM ***  Listing 1  ***
110 REM ***              ***
120 REM ********************
130 ON ERROR RUN
140 *KEY 10 O.|M L.|M
150 MODE1
160 PROCtitle
170 PROCwriting("WORLD",5)
180 PROCwriting("TIMES",34)
190 COLOUR 3
200 VDU28,13,22,26,17
210 CHAIN""
220 END
230 DEFPROCtitle
240 VDU29,640;512;5
250 GCOL0,2
260 FORA=0TORAD90STEPRAD.8:X%=350*COSA
:Y%=350*SINA
270 PLOT69,X%,Y%:PLOT69,-X%,Y%:PLOT69,
-X%,-Y%:PLOT69,X%,-Y%:NEXTA
280 FORI%=1TO12:MOVE SINRAD(I%*30)*280
*1.1-32-16*(I%<10),COSRAD(I%*30)*280*1.1
+16
290 PRINT;I%:NEXT
300 GCOL0,1:MOVE0,-40:MOVE0,40:PLOT85,
25,40
310 MOVE0,-40:PLOT85,-25,40
320 MOVE25,40:PLOT85,0,200
330 GCOL0,2
340 MOVE-80,0:MOVE60,0:PLOT85,60,20
350 MOVE-80,0:PLOT85,60,-20
360 MOVE60,20:PLOT85,300,0
370 GCOL0,0:PLOT69,0,0
380 VDU4
390 ENDPROC
400 DEFPROCwriting(A$,s%)
410 COLOUR 1
420 A%=&A:X%=&72:Y%=0:b=&72
430 FOR d%=1 TO LEN(A$)
440 B$=MID$(A$,d%,1)
450 ?b=ASC(B$):CALL &FFF1
460 VDU23,224,b?1,b?1,b?2,b?2,b?3,b?3,
b?4,b?4
470 VDU23,225,b?5,b?5,b?6,b?6,b?7,b?7,
b?8,b?8
480 GCOL0,1
490 PRINTTAB(s%,d%*2+5);CHR$224
500 PRINTTAB(s%,d%*2+6);CHR$225
510 NEXT
520 ENDPROC
```

```
  270 PRINT"Greenwich Mean  Time (G.M.T)
 , to be  written in as  a  24  hour  ";
  280 PRINT"clock  with the  Hours  foll
owed by the minutes."
  290 VDU26
  300 PRINT TAB(4,9);CHR$(129);"eg."
  310 PRINT TAB(3,10);"If the time was e
ight-thirty in the"
  320 PRINT TAB(3,11);"afternoon you wou
ld write :"
  330 PRINT TAB(14,13);CHR$(132);CHR$(14
1);"20:30"
  340 PRINT TAB(14,14);CHR$(132);CHR$(14
1);"20:30"
  350 VDU28,3,21,39,16
  360 PRINT"pressing  RETURN  to split t
hem up.  You can then pick any of the ";
  370 PRINT"cities  and  the  times  in
 those  various  cities will be ";
  380 PRINT"revealed  along with  the co
untries that they are located"
  390 VDU26
  400 PROCspace
  410 B=GET
  420 IF B<>&20 THEN 410 ELSE GOTO 430
  430 CLS
  440 VDU 23;11;0;0;0;0
  450 FOR C=1 TO 25
  460 PRINT CHR$(131);CHR$(157)
  470 NEXT C
  480 PRINT TAB(9,5);CHR$(141);CHR$(132)
;"What is the time ?"
  490 PRINT TAB(9,6);CHR$(141);CHR$(132)
;"What is the time ?"
  500 PRINT TAB(10,15);CHR$(129);"TIME="
  510 PRINT TAB(17,15);CHR$(129);":"
  520 VDU 31,16,15
  530 INPUT ""HR
  540 IF HR<-1 OR HR>23 THEN PROCerror:G
OTO 430
  550 VDU 31,19,15
  560 INPUT ""MIN
  570 IF MIN<-1 OR MIN>59 THEN PROCerror
:GOTO 430
  580 PROCspace
  590 TIME=HR*360000+MIN*6000
  600 REPEAT
  610 PROCtime
  620 PRINTTAB(12,4);CHR$(141);CHR$(129)
HR;":";MIN;":";SEC;SPC(10)
  630 PRINTTAB(12,3);CHR$(141);CHR$(129)
HR;":";MIN;":";SEC;SPC(10)
  640 X=INKEY(0)
  650 UNTIL X=&20
  660 MODE 7
  670 VDU 23;8202;0;0;0;
  680 FOR A=1 TO 25
  690 PRINT CHR$(135);CHR$(157)
  700 NEXT A
  710 FOR n=1 TO 16
  720 READ CHO,C$,LO$,DIF,MDIF
  730 PRINT TAB(3,n+2);CHR$(129);n;TAB(3
);CHR$(130);C$
  740 NEXT
  750 FOR n=1 TO 16
  760 READ CHO,C$,LO$,DIF,MDIF
  770 PRINT TAB(19,n+2);CHR$(129);n+16;T
AB(3);CHR$(130);C$
  780 NEXT
  790 PRINT TAB(12,19);CHR$(129);"33";CH
R$(130);"To End"
  800 PRINT TAB(2,20);CHR$(134);"Which c
ities time do you want(1-33)?"
  810 PRINT TAB(12,1);CHR$(129);"G.M.T.=
  820 REPEAT
  830 REPEAT
  840 PROCtime
  850 PRINTTAB(20,1);HR;":";MIN;":";SEC;
SPC(10)
  860 PROCdelete
  870 VDU31,2,21,129
```



```
  880 INPUT""CH
  890 UNTIL CH>0 AND CH<34
  900 IF CH=33 MODE7:END
  910 RESTORE 1060
  920 READ CHO,C$,LO$,DIF,MDIF
  930 IF CH<>CHO GOTO 920
  940 PRINT TAB(6,21);CHR$(133);C$
  950 PRINT TAB(20,21);CHR$(130);LO$
  960 HR=HR+DIF
  970 MIN=MIN+MDIF
  980 IF MIN>60 THEN LET MIN=MIN-60:HR=H
R+1
  990 IF MIN<0 THEN LET MIN=MIN+60:HR=HR-
1
 1000 IF HR>24 THEN LET HR=HR-24
 1010 IF HR<-1 THEN LET HR=HR+24
 1020 PRINT TAB(32,21);CHR$(133);HR;":";
MIN
 1030 FOR X=1 TO 4000:NEXT X
 1040 PROCdelete
 1050 UNTIL FALSE
 1060 DATA 1,Athens,Greece,2,0
 1070 DATA 2,Auckland,New Zealand,12,0
 1080 DATA 3,Bombay,India,-5,-30
 1090 DATA4,Bonn,W.Germany,1,0
 1100 DATA5,Buenos Aires,Argentina,-3,0
 1110 DATA6,Cairo,Egypt,2,0
 1120 DATA7,Calcutta,India,5,30
 1130 DATA8,Cape Town,S.Africa,2,0
 1140 DATA9,Chicago,U.S.A.,-6,0
 1150 DATA10,Copenhagen,Denmark,1,0
 1160 DATA11,Darwin,Australia,9,30
 1170 DATA12,Dublin,Ireland,0,0
 1180 DATA13,Hong Kong,China,8,0
 1190 DATA14,London,England,0,0
 1200 DATA15,Los Angeles,U.S.A.,-8,0
 1210 DATA16,Madrid,Spain,1,0
 1220 DATA17,Mexico City,Mexico,-6,0
 1230 DATA18,Montreal,Canada,-5,0
 1240 DATA19,Moscow,U.S.S.R.,3,0
 1250 DATA20,New York,U.S.A.,-5,0
 1260 DATA21,Paris,France,1,0
 1270 DATA22,Peking,China,8,0
 1280 DATA23,Perth,Australia,8,0
 1290 DATA24,Quebec,Canada,-5,0
 1300 DATA25,Rome,Italy,1,0
 1310 DATA26,San Francisco,U.S.A.,-8,0
 1320 DATA27,Singapore,Asia,7,30
 1330 DATA28,Sydney,Australia,10,0
 1340 DATA29,Tokyo,Japan,9,0
 1350 DATA30,Vancouver,Canada,-8,0
 1360 DATA31,Washington,U.S.A.,-5,0
 1370 DATA32,Wellington,New Zealand,12,0
 1380 DEFPROCerror
 1390 PRINT TAB(11,13);CHR$(129);"TIME I
S INCORRECT"
 1400 FOR D=1 TO 1000:NEXT D
 1410 ENDPROC
 1420 DEFPROCspace
 1430 PRINT TAB(6,23);CHR$(135);"PRESS";
CHR$(132);"SPACE";CHR$(135);
 1440 PRINT"BAR TO CONTINUE"
 1450 ENDPROC
 1460 DEFPROCdelete
 1470 VDU31,39,21
 1480 FOR I=39TO3 STEP-1
 1490 VDU127
 1500 NEXT
 1510 ENDPROC
 1520 DEFPROCtime
 1530 IF TIME>8640000 THEN TIME=TIME-864
0000
 1540 SEC=(TIME DIV 100) MOD 60
 1550 MIN=(TIME DIV 6000) MOD 60
 1560 HR=(TIME DIV 360000) MOD 24
 1570 ENDPROC
 1580 DEFPROCreport
 1590 IF ERR=17 ENDPROC
 1600 CLS
 1610 REPORT:PRINT" at line ";ERL
 1620 END
```

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Your cover is good. Very good in fact. You spend a few days sniffing around and then head up towards Lake Bruntz. You check in to the Glitz Hotel. It's the last lead you have. You seem to be getting nowhere.

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Valkyrie 17 is an Adventure featuring both graphic and text locations. You will meet several different characters some of whom may help you while others see your demise as their sole purpose in life.

Included in the pack is a comprehensive dossier on Valkyrie 17. On the reverse of the cassette tape are the answerphone messages. And then of course there's the game itself.

LOADING TIME	**5½ minutes.**	**MICRODRIVE**	**X/FER FUNCTION**
LOCATIONS	**100+**	**FUN FACTOR 8**	
LEVEL	**?**		
SOUND	**Beep Beep**		

HINTS

Watch your back, try not to get killed and mind your language.

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Valkyrie 17 is distributed by Palace Virgin Gold, 69 Flempton Road, London E10 7NL. Telephone: 01-539 5566. Available from all leading wholesalers.



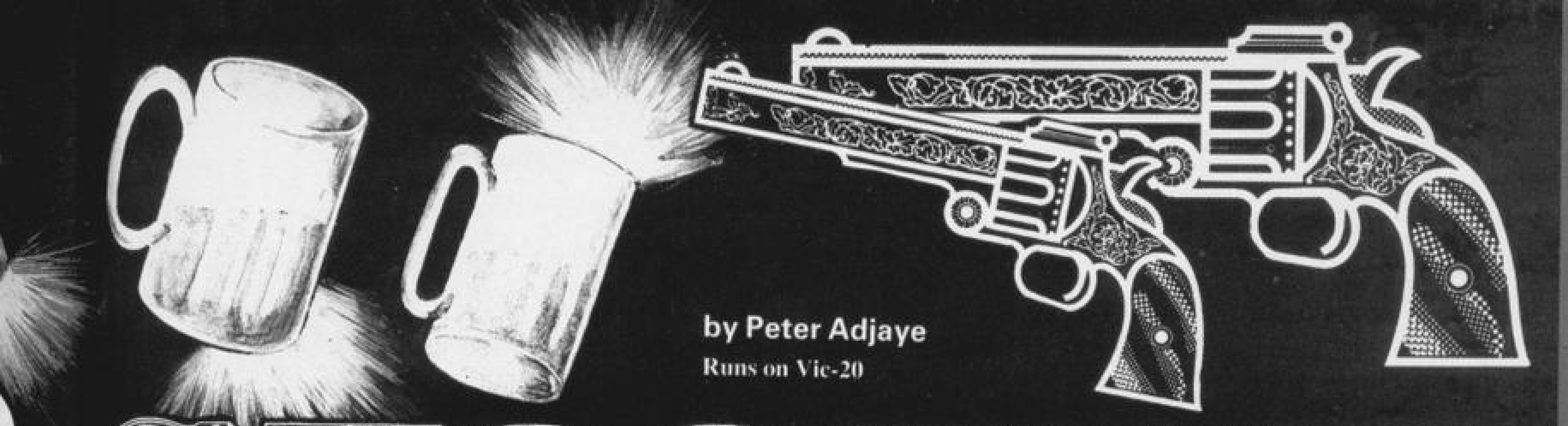
BAR

In the Wild West, life just wasn't wild enough all the time. In the absence of TV people had to make their entertainment. Baiting the town drunk, tieing cans to cats' tails, that sort of harmless fun. Here you can participate in another popular sport — shooting beer glasses in the Lucky Strike saloon. The barman slides a stein of foaming Budweiser along the bar, and when it falls off the end, you have to zap it. Make sure you hit the handle though. And watch out for the bill — this is an expensive pursuit.

```
0 REM BAR SHOOTING
3 AA=73:BB=160:CC=103
5 RESTORE:SC=0
7 POKE36879,25:REM SCREEN COLOUR
9 SO=36876:V=36878:REM SOUND & VOLUME
11 REM DATA FOR A$
13 A$="":FORI=1 TO 27:READA:A$=A$+CHR$(A
):NEXT
15 DATA18,158,46,17,157,157,146,172,18,3
2,17,157,203,17,157,146,28,223,18,223
17 DATA17,157,157,169,146,169,144
19 REM DATA FOR G$
21 G$="":FORI=1 TO 35:READA:G$=G$+CHR$(A
):NEXT
23 DATA144,175,18,17,157,162,162,162,164
,164,164,145,157,146,172,17,17
25 DATA157,157,157,205,203,18,32,223,146
,17,157,157,157,163,223,18,32,146
27 REM DATA FOR B$
29 B$="":FOR I=1 TO 12:READA:B$=B$+CHR$(
A):NEXT
31 DATA31,167,17,157,167,164,165,157,145
,157,167,201
33 REM DATA FOR C$
35 C$="":FORI=1 TO 25:READA:C$=C$+CHR$(A
):NEXT
37 DATA31,145,32,32,32,17,157,157,157,16
7,157,167,18,32,146,32,32,145,157,157
39 DATA157,167,201,32
41 A=7680:B=22:E=A-19*B+12:F=0
43 PRINT"[illegible]"
45 PRINT"[illegible] CITY SALOON"
47 FOR GAME=1 TO 6:R=0
51 I$="[illegible]"
53 I$="[illegible]"
55 PRINT"[illegible]"TAB(19)A$
57 PRINT TAB(17)B$
59 IFSC=0 THENPRINT"[illegible]":FORI=1TO6:PRIN
T"[illegible]":NEXT:PRINT:PRINT"[illegible]"
61 IFSC=0THENFORI=1TO6:PRINT"[illegible]";:NEXT
:PRINT
63 IFSC=0THENPRINT"[illegible]"
65 PRINT LEFT$(G$,11)"[illegible]"
```

Controls: Space bar to fire





by Peter Adjaye

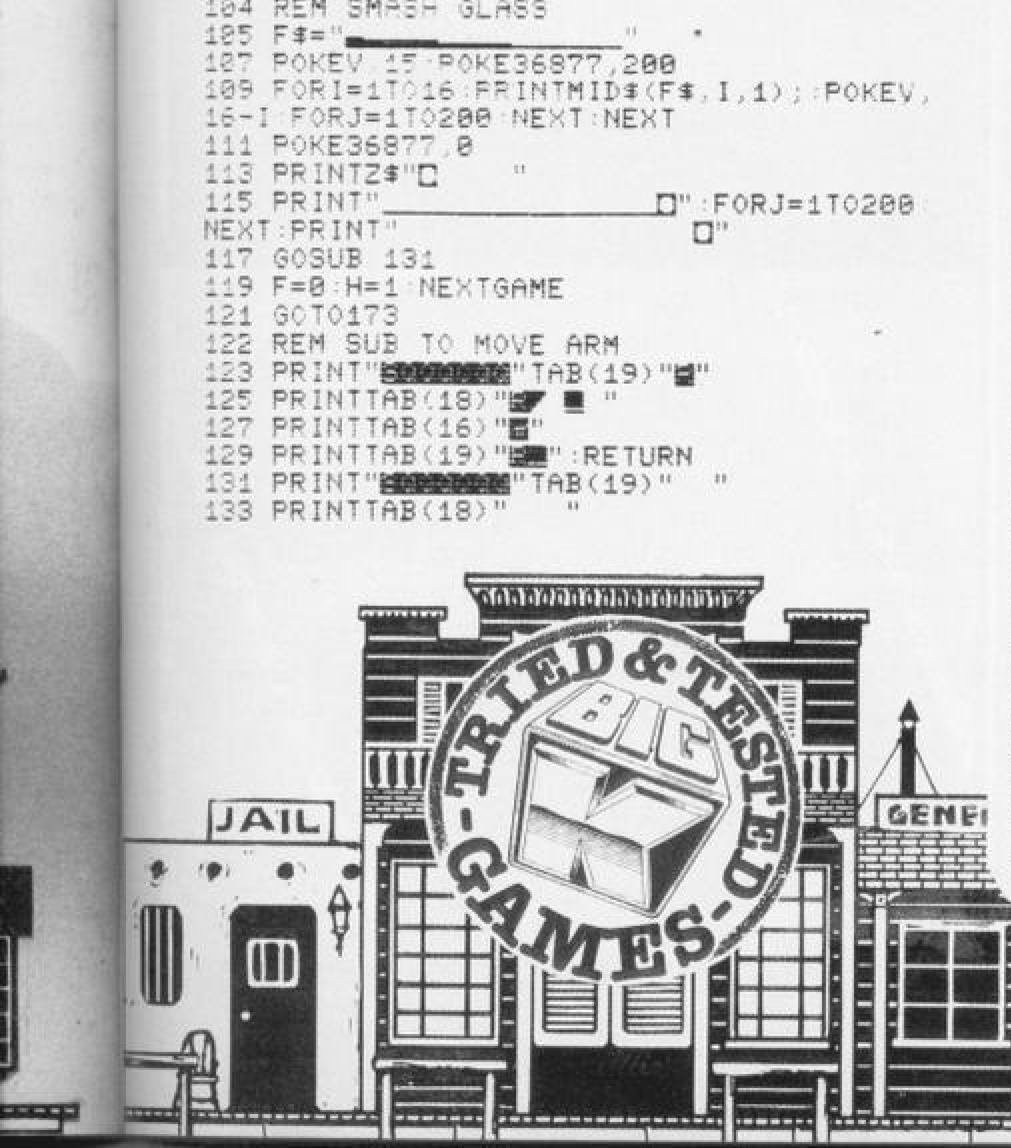
Runs on Vic-20

SHOOTING

```
67 PRINT"       ▌▁▁▁ ▁▁▁ ▁▁▁"
69 PRINT"       ▌▒ |  ||  ||  |"
71 PRINT"       ▌▒ | ▒|| ▒|| ▒|"
73 PRINT"       ▌▒ | ▒|| ▒|| ▒|"
75 PRINT"       ▌▒ | ▒|| ▒|| ▒|"
77 PRINT"       ▌▒ | ▒|| ▒|| ▒|"
79 PRINT"       ▌▒ |__||__||__|"
81 PRINT LEFT$(Z$,19)TAB(13)G$:J=1
83 IFH<1THENGOSUB183
84 REM FILL GLASS
85 POKEV,8:FORI=128TO240:POKESO,I:POKESO
-1,I
87 IF I/8=INT(I/8)THENPRINTLEFT$(Z$,10)T
AB(18)MID$(D$,J,1);:J=J+1
89 NEXT:POKESO,0:POKEV,0:POKESO-1,0
91 POKE198,0:REM CLEAR KEABOARD BUFFER
93 PRINTTAB(19)"■ "
94 REM MOVE GLASS ←
95 FORI=17TO0STEP-1:PRINT"▒▒▒▒▒▒▒"TAB
(I)C$:GOSUB141:IFI=13THENGOSUB123
97 NEXT
98 REM MOVE GLASS DOWN
99 FOR I=1 TO 13:PRINT LEFT$(Z$,I+9)C$"▒
":GOSUB141:NEXT:PRINTLEFT$(Z$,22)"    "
101 PRINTZ$"▒"
103 POKEE-2+F,32
104 REM SMASH GLASS
105 F$="▁▁▁▁▁▁▁▁▁▁▁▁▁▁▁"
107 POKEV,15:POKE36877,200
109 FORI=1TO16:PRINTMID$(F$,I,1);:POKEV,
16-I:FORJ=1TO200:NEXT:NEXT
111 POKE36877,0
113 PRINTZ$"□    "
115 PRINT"_______________□":FORJ=1TO200:
NEXT:PRINT"                □"
117 GOSUB 131
119 F=0:H=1:NEXTGAME
121 GOTO173
122 REM SUB TO MOVE ARM
123 PRINT"▒▒▒▒▒▒"TAB(19)"▒"
125 PRINTTAB(18)"▒ ■ "
127 PRINTTAB(16)"▒"
129 PRINTTAB(19)"▒▒":RETURN
131 PRINT"▒▒▒▒▒▒"TAB(19)"  "
133 PRINTTAB(18)"   "
135 PRINTTAB(16)"      "
137 PRINTTAB(19)"   ":RETURN
139 RETURN
141 IF F<0THEN147
143 REM TEST FOR SPACE BAR
145 GETK$:IFK$<>" "THENFORJ=1TO20:NEXT:R
ETURN
147 F=F-1:IFF=-11THENF=0:RETURN
149 IFF<-2THENPOKE36877,0:POKEV,0:GOTO15
3
151 POKE36877,190:POKEV,15
152 REM CHECK IF HIT
153 P=PEEK(E-2+F):IFR=1THENRETURN
155 IFP=AAORP=BBORP=CCTHENGOSUB161:R=1:R
ETURN
157 POKEE-2+F,119:POKEE-2+F+30720,0:POKE
E-1+F,32:POKE8098,32
159 RETURN
160 REM HIT
161 SC=SC+1:FORJ=1TO2*SC:POKEA+3*B+J,32:
NEXT
163 FORJ=1TO2*SC:POKEA+4*B+J,32:NEXT
165 FORZ1=1TO5
167 POKEV,15:FORZ=200TO230:POKESO,Z:NEXT
:FORZ=230TO200STEP-1:POKESO,Z:NEXT:POKES
O,0
169 NEXTZ1
171 RETURN
172 REM PRINT SCORE
173 PRINT"▒▒YOU GOT"SC"■ OUT OF 6  "

175 IFSC=6THENPRINT"▒ SHARPSHOOTER":PRIN
T"DO I TAKE IT YOU DON'TWANT A DRINK?"
177 FORI=1 TO 8000:NEXT:H=1:IF SC=6 THEN
 BB=AA
179 IF SC=6AND BB=AA THEN CC=AA
181 GOTO5
182 REM INSTRUCTIONS
183 READX$:IFX$="#"THEN RETURN
185 FOR I=1 TO LEN(X$)
187 PRINT"▒▒"TAB(20)MID$(X$,I,1)
189 PRINT"▒▒"CHR$(20):FOR DELAY=1 TO 10
0:NEXT
191 NEXT I:GOTO 183
193 DATA"▒BAR SHOOTING■","       THE BAR T
ENDER WILL POUR YOU A DRINK,"," AND "
195 DATASLIDE IT ALONG THE BAR TOP... YO
U MUST SHOOT THE GLASS ....BEFORE IT HIT
S
197 DATA" THE FLOOR ...USING THE SPACE B
AR TO FIRE......FOLLOWING 6 HITS "
199 DATA"IN A ROW, THE GLASS WILL ONLY B
REAK IF THE BULLET STRIKES THE HANDLE.."
201 DATA"...YOUR FIRST DRINK IS COMIN' U
P              "
203 DATA"#"

READY.
```



BAR SHOOTING (for Vic 20)



PART TWO PLAYER MISSILES

Two months ago we covered the very basics of PM graphics, which will have been enough to let you do a bit of experimenting. This time we will continue by looking at the remaining PM 'embellishments', but first, a few words to reinforce the ground covered last time, and to allay any misgivings which may have arisen.

If you have been trying out your newfound skills, then you may be a bit concerned about the amount of memory gobbled up by PM graphics. Of course, if you've got a 48K machine, then you probably won't even have considered this, but us poor guys with only 16K can't afford this sort of wastage.

MINIMISING RAM USAGE

The PMBASE boundary addresses I gave two months ago are really only for 'learners'; you can sail a lot closer to the wind than that. For instance, with GR.5, the nearest 1K boundary is at page 56, but the PM data for the 4th player will make a real mess of the display list . . . However if you aren't using the 4th player, the display list will be safe enough. Remember though, even if you don't write data into this player, if you assign a colour to it and move it onto the screen, then the display list, which will have been interpreted as PM data, will show up on the screen.

Similarly, if you are only using the first two players in single line resolution, you can get away with setting PMBASE to an *odd* (1K) boundary rather than an even (2K) one, so long as you have your 2K of PM RAM. This means, for example, that in GR.6 you could use page 44 instead of page 40. Combining the two 'economy measures', you should even be able to push this up to page 48.

If you want to use PM graphics to the full, with the minimum of RAM usage, the safest thing to do is to use the top 1K or 2K of the machine, reserving the space by re-setting the MEMTOP pointer. (You won't be able to use the 'strings' techniques described earlier though).

3D MOVEMENT

Since we have already discussed the size registers and changing a player's shape, let's take a brief look at simulating 3D movement.

By judicious use of the size registers and suitable 'shape tables' a player shape can grow from single pixel size, to a width equivalent to 32 pixels. (That's 8 GR.0 character widths). Furthermore, by grouping players and/or missiles together as required, your PM shape can grow in size till it covers the entire playfield area . . . Plenty of scope for 3D movement effects there.

IN PASSING . . .

I'm always tickled pink when I can see a shape on my TV screen disappearing behind another screen 'object', and then catch glimpses of it through various 'holes' in the object.

To introduce a new technical term, you won't be earth shatteringly astounded to learn that the shape which 'disappears' has a *lower* screen PRIORITY than the one that doesn't. In fact, to be absolutely correct, it is the colours used to print, or plot, the shapes, which are given priorities.

You can specify the priorities for various combinations of the player (PL) and playfield (PF) colors by using the 'GPRIOR register at location 623, which is the shadow of PRIOR, at 53275. (Remember what was said about shadow registers?) Only the first 4 BITS, DO-D3, are used to specify priorities, and to get the desired effect, only one of these bits should be set at a time.

Figure 1 illustrates the effects achieved by setting each of the bits. Note that, as is to be expected, the Background (border) color always has the lowest priority.

CRASH BANG WALLOP

What happens if two 'shapes' meet, and you don't want them to just sail past each other? Well . . . to complete the PM graphics 'package', ATARI have provided 'collision detectors' as shown in table 1. These are *'read only'* registers, and again only the first 4 bits are used.

When a collision occurs, a bit, corresponding to the color type of the object encountered, is set in the appropriate register. For example, if missile M1 collides with a PF*3* shape then bit *D3* of register at 53249 is set. If it collides with PLAYER*O*, then bit *DO* of 53257 is set and so on. So . . . if you want to go to an explosion routine whenever M1 collides with PLAYER *2*, then every time you move *either* of them, you must check the value at location 53257, to see if bit *D2* has been set. This value may indicate that some of the other 3 bits have been set, which means that a different collision, or a multiple collision has occurred, and this may or may not matter according to your requirements. Simple eh?

Obviously you won'twant to be stuck with a never ending explosion,so you will have to clear that bit in the collision register somehow. You can't poke it because it is read only,. instead you use a register called HITCLR, at 532278. Any value written into this register will clear *all of the collision registers*. Once the registers are cleared, HITCLR will automatically be set to zero again.

ADDRESS	NAME	PM SHAPE	TYPE OF COLLSION
53248	MOPF	MISSILE 0	PLAYFIELD
53249	M1PF	MISSILE 1	"
53250	M2PF	MISSILE 2	"
53251	M3PF	MISSILE 3	"
53252	POPF	PLAYER 0	"
53253	P1PF	PLAYER 1	"
53254	P2PF	PLAYER 2	"
53255	P3PF	PLAYER 3	"
53256	MOPL	MISSILE 0	PLAYER
53257	M1PL	MISSILE 1	"
53258	M2PL	MISSILE 2	"
53259	M3PL	MISSILE 3	"
53260	POPL	PLAYER 0	"
53261	P1PL	PLAYER 1	"
53262	P2PL	PLAYER 2	"
53263	P3PL	PLAYER 3	"

TABLE.1

by Nigel Farrier

APPLICATIONS OF PM GRAPHICS

If the mention of Player/missile Graphics conjures up images of tiny space—ships and flying saucers flitting about the screen, then try to get this association out of your mind. You can do a lot more than that with PM graphics.

For a start, it will give you at *least*, 4 extra colours on screen, regardless of the graphics mode you are using. (Don't forget bout bit D5 of the priority register). Remember also, that by placing all the players and missiles side by side in quadruple width mode, you can cover the entire width of the playfield area to the full hight of the *screen*, so I'm not talking about little splodges of colour either. This means that you can use players to form 'backdrops' or 'curtains' etc. Admittedly, the resolution of players in this 'extended' mode is a bit chunky (to say the least), but you can get over this, to make large 'high resolution' (but not very mobile) shapes, by covering the player(s) with a playfield colour, then 'unplotting' this colour (using the BAK colour) to the size and shape that you require, so that the player colour shows through.

By writing data from the computers' character set into the 4 players, you can put a 4 letter word in GR.1 or GR.2 style, onto the border area of the screen, and don't forget, by using Display — list Interupts, you can 'snip off' the parts of a player above and below a shape and shift the rest of the player to a new horizontal position to form a new shape there.

All in all, the possibilities for PM graphics are pretty far reaching, so it is up to you what you can make of it.

Finally, when you are telling your friend about the great program you are writing, using PM graphics, and he says, "Player Missiles? Oh yeah . . . Sprites!" You can let 'im have it . . . both barrels!!!!

You will see that a 5th player has crept into fig.1. This can be achieved by grouping the 4 missiles together, and to overcome the problem of different coloured missiles, you can set *bit D4* of the priority register. This divorces the missiles from the player colour registers, and instead assigns the PF3 colour register to all the missiles . . . and that's all it does. To move the 5th player you will still have to move each missile separately.

Since this player has the same colour as PF3, if it passes in front of an object with this colour, you won't be able to distinguish it, so I suppose you could just as well say that it passes behind the object, as I have shown in fig.1.

By the way, for those of you who haven't yet sussed out where ther playfield colour registers are, refer to appendix 1-2 of the Basic Reference Manual, which gives the location of the shadow registers. The 'real' registers are at 53270 — 53274.

MULTI-COLOURED PLAYERS

That's 5 of the 8 bits in the priority register accounted for, but c'mere . . . there's more.

If you remember, last time I said that you could get multi-coloured players by 'overlapping' players which have different colours. Obviously, one of the players will have a higher priority, and if all of its' pixels are 'lit', it will cover the pixels of the player behind it. However if some of its 'pixels are unlit, then the colour of the lower priority player will show through, or, if these pixels are also unlit, then the player of playfield colour behind *that* will show through. This gives you a fair amount of colour by setting *bit D5* of the priority register. This causes the colours of the *pairs* of players PO/P1 and P2/P3 to be logically OR'd in the overlap area, and this will produce a colour which is different to either of the two players. It gets better doesn't it?

The last two 'high order' bits of the priority register are concerned with the GTIA graphics modes, but we won't go into that here. (I heard that! . . . and I *do so* know sod all about it).

PRIOR & GPRIOR BAK PL5 PL3 PF2 PF1 PFO PL3 PL2 PL1 PLO D7 D6 D5 D4 D3 D2 D1 D0 SEE TEST 0 0 0 1

PRIOR & GPRIOR BAK PL3 PL5 PF3 PF2 PF1 PFO PL1 PLO D7 D6 D5 D4 D3 D2 D1 D0 0 0 1 0

PRIOR & GPRIOR BAK PL3 PL2 PL1 PLO PL5 PF3 PF2 PF1 PFO D7 D6 D5 D4 D3 D2 D1 D0 0 1 0 0

PRIOR & GPRIOR BAK PL5 PF3 PF2 PL3 PL2 PL1 PLO PF1 PFO D7 D6 D5 D4 D3 D2 D1 D0 1 0 0 0

FIG.1

WRITTEN YOUR MASTERPIECE YET?

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WIMPLASH

"Micros have shot their bolt", says JOHN BEAR, the man who wrote the USA's current No.3 best-selling computer book.

"Tell us about it", says JOHN CONQUEST, the man who interviewed him.

YOU KNOW what they say about us and the States — that what America is doing today, we'll be doing in two or three years? Well, brace yourselves for a nasty shock because, if John Bear is to be believed, the twilight of the home computer is approaching. The Bronze Age of the micro is giving way to the Iron Age of the mini.

John Bear is the author of *Computer Wimp* (Hutchinson, £6.95), the No.3 best-selling introductory book in America. Sub-titled "166 Things I Wish I'd Known Before I Bought My First Computer", it passes on his painfully and expensively acquired expertise and disillusionment with computers in a no-holds-barred attack on the computer industry's mystique, methods, strategies, short-sightedness and incompetence. Aimed mainly at potential minicomputer buyers (Apples, IBMs, Osbornes, etc), and American ones at that, some of it isn't too much use to us Brit micro types, but there are enormous and salutory doses of demystifying commonsense that make a welcome change from the Gee Whiz! techno-babble of most computer books.

Bear's message to the world is that you don't have to get involved with computers at all, that you can live a happy computer illiterate life — and moreover, that the real value of computers will be in a thousand inconspicuous, taken-for-granted useful functions. He draws an analogy with electric motors; when they were a revolutionary new gadget, people used to buy them just to watch them go round. Now virtually every home has several that are barely noticed, in washing machines, hoovers and other appliances.

"The story I tell in the introduction", says Bear (who, by the way, is quite unlike his name — a small, neat, quiet, low-key man), "is absolutely true. I had the only computer for miles round Mendocino (Northern California), so I got a constant stream of questions. I didn't want to write a computer book at all, I already had a six-book contract, but I had to stop people asking me the same questions over and over. I started charging as a consultant but word spread and I saw that I was going to spend all my time answering indentical questions. So I spend six months putting it all in a book.

"It's interesting that though the book's selling very well, computer stores won't stock it because the owners don't like the advice I given on how to get a good deal out of them . . . discounts and servicing, things like that. They say 'I don't want this thing in my shop. People will learn too much'. My American publisher is doing an ad campaign based on that — 'Why is this book banned by computer shops?'"

"I don't talk much about specific machines. That's deliberate, I'd have needed too much time and the book would be even bigger than it is. But it's a real problem. You won't get the truth from American computer magazines. They cater to the advertisers, even though they often get really angry with them.

"Computers have peaked out in America,I'm sureofthat.They were a tremendous fad but now that's well over. There was a survey that showed that over half of the $500 range machines — Ataris and Commodores and so on — aren't being used at all. They're in cupboards along with CB radios and other past fads. Games were very big, but Americans got tired of the first generation of them and didn't wait around for the second, like the ones you see to have over here which sound very interesting. The money used to be in games, but now companies like Broederbund are moving into software that isn't glamorous — inventory control, things like that — but pays.

"These days you can pick up a ZX81 for $10 and buy Ataris and Commodores in Safeways, but nobody's buying them. What people are buying are dedicated machines, for word processing and business. But there is still some excitement left. At the San Francisco show, the big companies had big stands right by the entrance next to each other. Digital and IBM's were empty, absolutely deserted, but Apple had 500 to 1000 people all the time standing open-mouthed in front of the Macintosh. I love that machine and of course now they've announced the Fat Mac. But even so it was a supreme example of Don't Be The First On Your Block. [a basic Computer Wimp axiom]. It was released, oh, months ago, but the software's only just coming now. But that's where the future lies, not in micros. Macs will be coming down, there's so much demand. College papers are full of veiled ads for them — students get special prices. A £600-700 Macintosh will be a recreational machine as well as everything else. Even now MacPaint is somethingyou do for fun.

"There was a survey which showed that most people thought that by the 1990s there'd only be three computer companies left, Apple, IBM and Sony. I don't know why they include Sony. Their word processor is splendid but they can't have sold many."

"MSX? What's that, I've not heard of that?"

(Break to give Mr. Bear the BIG K line: i.e., too little too late.) "They're trying it out on you first, huh? Well that makes sense, I don't think they'd get anywhere in America now. Well, like I always say, you should wait for the software first. I guess it's still possible to take over the market, but how many big operations are there left who could do it? Xerox burned their fingers, everybody waited five years for AT&T and it was just another machine, nothing special. If the Japanese have got it wrong, which it sounds as if they have, then it's going to be a slow process of attrition.

"The idea of compatability is right though. That's the thing the American computer press is really focusing on these days and they're very negative about the big companies. Quite right. Lots of people claim to be IBM compatible, but they're not. Even IBM aren't IBM compatible! The PC jr will run maybe 20% of IBM software and even then you can't really be sure it's going to work properly. They come up with all these elaborate solutions, but people don't want that kind of bother, not any more. To me, 95% compatibility is more annoying than five per cent.

"The 167th Thing (I Wish I'd Known etc)? Well, if I were doing it again — and I may have the chance next year — instead of saying that you should choose your software before your hardware, I'd point out the stages. First people buy a computer, then software, and finally they look at their actual needs. If I had one minute to talk to everybody in the world, I'd say do it the other way round. Most people, if they're being responsible, will never even get to the second stage. They'd realise that they don't need a computer at all. But buying a computer is an exciting thing to do. The trouble is that they start doing their analysis while they're unpacking the boxes. Do your research first!"



Thank you, Dr. Bear. And now I'm afraid I'm going to ignore American trends completely and have another crack at *Doomdark*. Before it's too late.

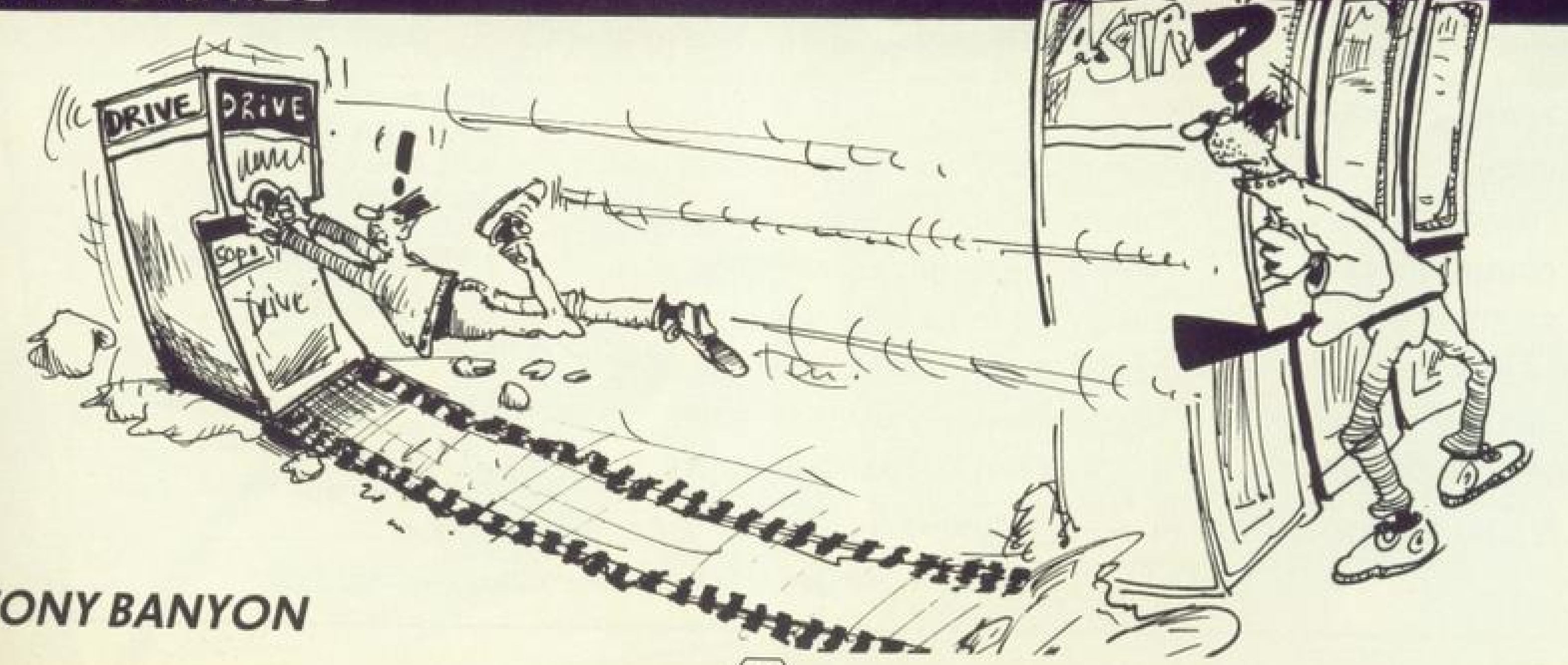
INLAY CARDS

For your Type-in Games Progs

Customise you BIG K games progs! Just carefully cut out the combined front and spine art. Make a fold and slip it over the existing inlay card in your cassette box.



BIG K FUNNIES



BY TONY BANYON

SPECTRA IMPORTS STOP PRESS

The cold weather must have affected our sanity. Our Bank Managers and Accountants have turned their backs on us at selling these items at such ridiculously low prices. We have been warned that these prices will make us bankrupt but we are willing to take the gamble and have this once-in-a-lifetime sale in November and December, as all items must be sold before January 1st 1985.

COMPARE THESE UNBEATABLE PRICES:

COMMODORE VIC 20	£59.95 CASH	COMMODORE 64	£99.95 CASH
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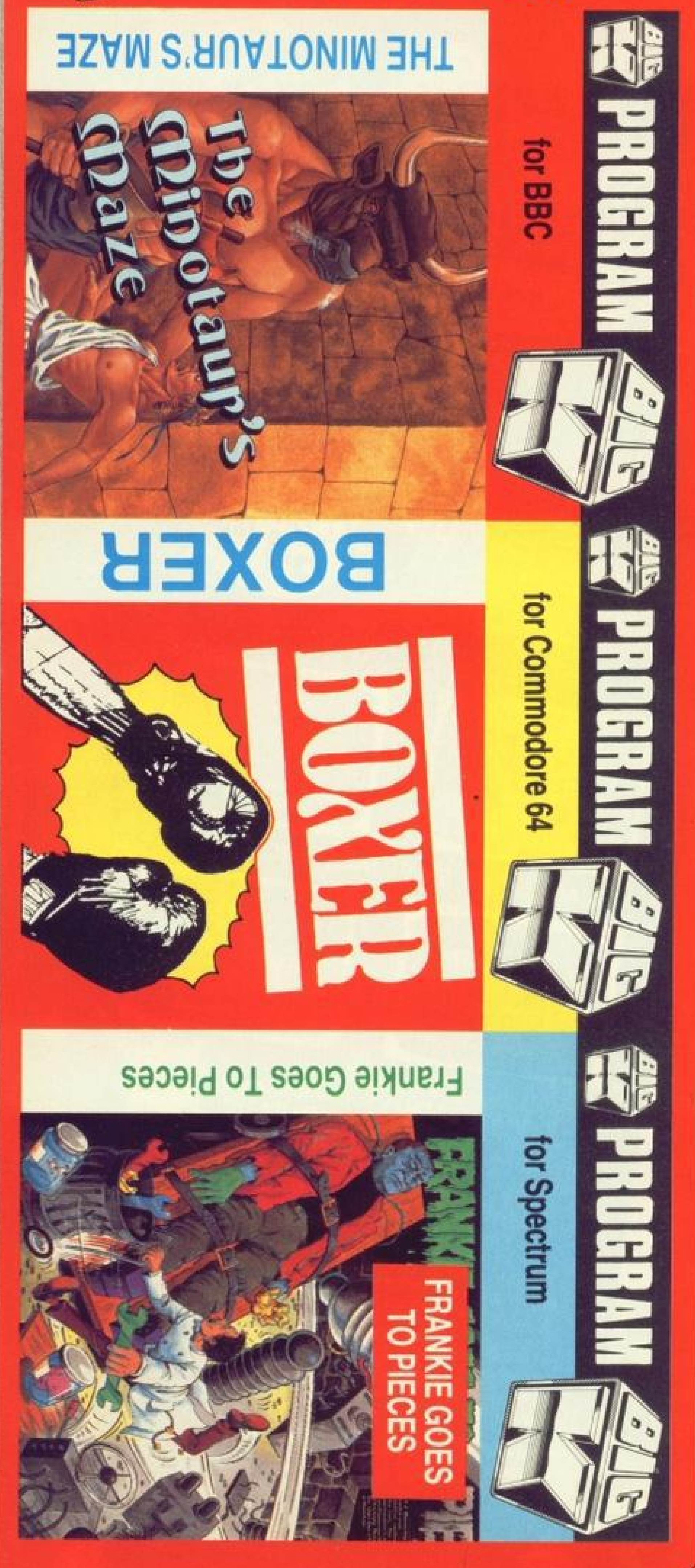
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For your Type-in Games Progs



BIG K NEXT MONTH



Ghostbusters!

The movie. . .the game. . .the scary bits! BIG K ain't afraid of no ghosts.

IN THE NAME OF THE LAW: an in-depth survey of punters' rights.

WIN A QL! The micro that became a legend in its own launch-time could be yours for the winning.

COMMODORE 64 MUSIC SPECIAL: Sounding off with SID the sound chip and his mates.

Old micros never die — they get their own feature in BIG K. We look at those you have known, loved and probably forgotten.

And all those really neat things like reviews and games listings that make BIG K an act you dare not miss!

Remember

BIG K No. 10 (Jan.) on sale EARLIER than usual. Run, don't walk, to your local newsagent

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Letters to BIG K

WANNA WIN A FIVER?

Yes, you too can join the formidable team of literati assembled on this here double-page spread and end up RICHER by FIVE WHOLE POUNDS! (If we publish your letter, that is.)

Scend your Scenario to . . .

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London SE1 9LS



STRAIGHT FROM THE DRAGON'S MOUTH . . . AND INTO THE FIRE

IMPATIENT to get my first computer, I walked into the nearest electronics shop and asked for advice.

"Oh, *definitely* the *Dragon*" said the monster behind the counter, firmly. "It's the best computer in creation." I believed him and parted with my cash. Imagine how I felt when I picked up a magazine a few days later and found I was the proud owner of an obsolete machine. I could have bought a CBM 64 or an Amstrad.
KEVIN MARTINO, London, NW10.

● Ouch! If you're going to make a first-time buy, for Heaven's sake do some research first. Read the mags for advice and compare prices. However, now you've got the beast, be consoled by the knowledge that Dragonware is still being produced. There are 150,000 Dragon owners in the country, and BIG K (at least) certainly won't stop catering for them.

SLUR

IS YOUR letter-answerer the same smarmy so-and-so who writes the replies to letters on Tharg's nerve centre in *2000 AD*?
TIM THE JET-SETTER,
Loughborough,
Leicestershire.

● No, smart-ass Jetlet. Know thy place. I am the all-seeing, all-knowing, all-smelling, one-and-only. I just happen to have friends in high places . . .

BEAUTIFUL STREAMERS

IF YOU had an all-time drop-outs chart, I'd nominate *Hell Gate*— a lavishly lame game..

Maker:	Llamasoft
Format:	cassette
Price:	£5.50
Graphics:	Do what?
Playability:	Uggh!
Addictiveness:	Huh?
Overall:	NIL

PAUL BRIGHTLY,
Rainham, Essex.

● Thanks, Paul. All Lame Game nominations are being covetously collated, hoarded and recorded. Shoot your hoot for the pending all-time losers chart.

KNOCK OUT

I READ 'Duff Roms of the Western World' in issue 7, and have found the number one candidate for a bad-taste chart.

As *Uncle Poo* you must collect sacks of gold and diamonds whilst being pursued by what looks like moles and steaks, You must also flee an incoming tidal wave. To dispose of Uncle Poo's assailants you must bend over and fart on them. They then ricochet around the screen. Formidable stuff, eh?
ADAM FINCH, Birmingham.

● There's ONE PERSON in this office who's bound to get a record score . . .

JET-VETTER

IN YOUR review of M.A.C.H. 3 (July issue) you stated that you were flying an "unmarked military air command HUNTER jet". It is in fact an F-15 Eagle aircraft.

I'm not pointing this out to embarrass the writer, but I'm a member of the Air Training Corps and like to see aircraft called by their correct names.
MICHAEL ALLEN,
Haverfordwest, Dyfed.

● Sure looks like an F-15 in the box set, but H.U.N.T.E.R. (note the acronym) is what the makers call it (no relation to the Hawker jet of the same name).

SPORTING CHANCE

IS THERE any news of a decent Olympics game for the BBC? I've already got *Micro Olympics* and I think it's rubbish.
PAUL COOK,
Broadstairs, Kent.

ARE THERE any athletics simulations (like Activision's *Decathlon*) available for the Atari 400/800?
J. MORTER,
Thetford, Norfolk.

● Can anyone tell us who's in the runnings for the BBC Olympics? Meanwhile, *Decathlon* will be out soon for the 400/800 (and XLs). The cassette will be priced at £9.99. 'J' might want to join Activision's Software Club to keep him posted. Write to: Lorraine Vick, The Activision Software Club, 5-7 Fourlease Road, Maidenhead, Berks.

THE LOWEST PIRATES ON EARTH . . .

THERE'S A lot more piracy here "Down Under" than in Britain. Most software is imported and there are few distributors. It's simply not available any other way.
DEREK ODGERS,
Queensland, Australia.

GIT ON UP FROM DOWN UNDER

BIG K is the most colourful and informative computer magazine I've seen. The big drawback is that we receive it two months after its issue date. It makes me feel jealous of Britain for having more software than Australia.
ALLAN KITTEL,
Whyalla Norrie,
South Australia.

● Looks like things are bubbling down under. Not only have we received a surprise sackful of eulogies from Australia and New Zealand, but Sydney-based 'Ozisoft' have started operating within these very shores. Then there's always Melbourne House. Hold onto your corks, Cobbers, things could be looking up.

THIS IS A HEX PARROT

NEITHER I nor my VIC 20 or CBM 64 have been programmed to work directly in Hexadecimal. We all like to count in tens and units, and sometimes in 1's and 0's.

We therefore find it hard to understand why many authors of CBM reference books insist on giving important addresses only in Hex, which to us has a



usefulness factor of 259! Unless of course this is a high order value in which case our answer would be 64000 — a nice round figure, I think you'll agree.
CHRIS WATT,
Cyncoed, Cardiff.

● Our sympathies to all of you. It isn't just the number system these schlemiels use. As far as we can make out, the text is written in an obscure dialect of Albanian, too.

ANDY — WALLOON OF THE MONTH

AM I the only person in the whole wide BIG K readership world — the intelligent world that is — who has found himself trying to control the players on *Match of The Day* with his joystick? Could I be suffering from a very extreme bout of Commodorious International Soccerlae? Is there a cure?
ANDY CLARKE,
Warwickshire.

● Yes. No. Goodbye Andy.

BESPOKE POKES (FRAKIN' GOOD)

I HOPE that the following upgrades will help *Frak!* freaks get more out of their game. The following gives you 255 lives:

```
*LOAD Frak 2
?&305B=&FF
CALL &468A
```

The following enables you to boot into the different screens by pressing the Escape key:

```
*LOAD Frak2
?&304D=1
CALL &468A
```

DAVID MACHIN,
Stoke-on-Trent, Staffordshire.

We pay for progs, two

EXEUNT THE DRAGON OR 50 WAYS TO SNUFF A DRAGON

1) KNOCK HIM ON THE HEAD, TED

ALLAN PHILLIPS wanted to know how to kill the Dragon in *Twin Kingdom Valley* (BIG K September issue). First of all rescue the Princess in a dungeon (on the way to the Dragon). You'll need the amulet which you can get by giving the Forest King a bag of gold. When you've rescued the Princess, he'll also give you a silver key. Use this to get into the Tower in the South West corridor. Inside you'll find a long staff. Hit the dragon with this and he'll die — and leave you the key.
DAVID L. JAMES, London SE15

2) STITCH HIM WITH A WITCH, MITCH...

IN ORDER to kill the dragon you must first kill the witch who resides in a tower opposite the one in which the dragon is encountered. She holds a wooden staff which will kill the dragon. Killing the witch however is no easy matter...

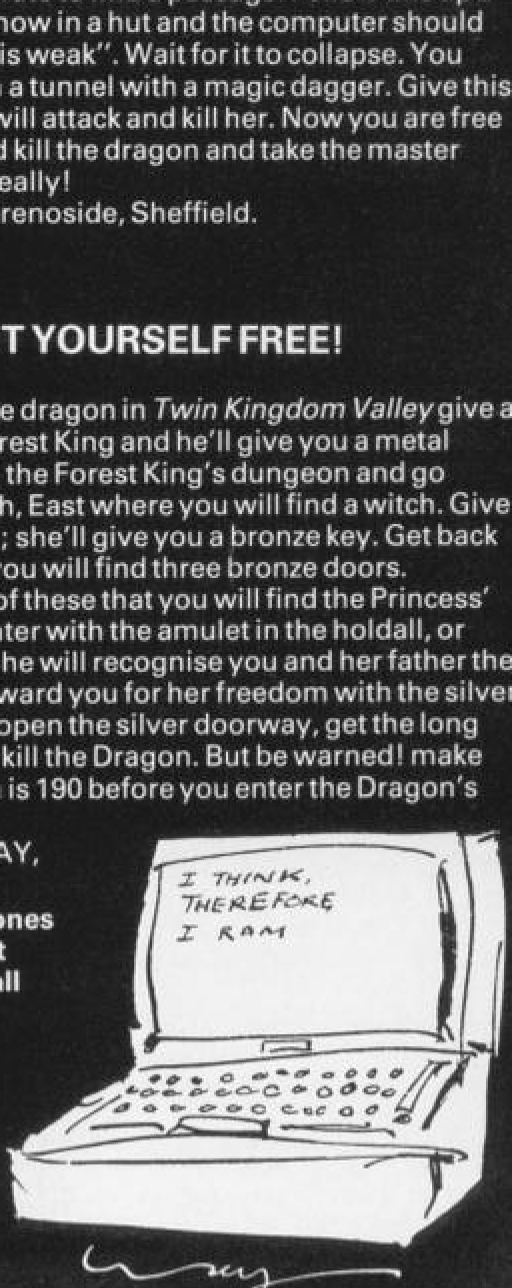
To kill the witch you must enter the grate in the clearing and take one of the doors on the side of the passage. Behind one of these lives a dwarf. Kill him by normal means.(!) Find the downwards staircase leading to a grate. Unlock the grate to find a passage. Follow this up a staircase. You are now in a hut and the computer should prompt "The floor is weak". Wait for it to collapse. You will find yourself in a tunnel with a magic dagger. Give this to the witch and it will attack and kill her. Now you are free to take the staff and kill the dragon and take the master key. Quite simple really!
M. NICHOLSON, Grenoside, Sheffield.

3) ...AND SET YOURSELF FREE!

IN ORDER to kill the dragon in *Twin Kingdom Valley* give a diamond to the Forest King and he'll give you a metal amulet. Now go to the Forest King's dungeon and go South, West, South, East where you will find a witch. Give her the crystal ball; she'll give you a bronze key. Get back to the grid where you will find three bronze doors.

It is behind one of these that you will find the Princess' dungeon. Don't enter with the amulet in the holdall, or she'll disappear. She will recognise you and her father the Forest King will reward you for her freedom with the silver key. Now you can open the silver doorway, get the long wooden staff, and kill the Dragon. But be warned! make sure your strength is 190 before you enter the Dragon's tower!
ALASTAIR LINDSAY,
Edinburgh.

● Now pick the bones out of that little lot (notice how they all disagree?)



GOAT I

I TYPED in some words whilst playing *Revenge of the Mutant Camels*. When I typed in GOATS 'cheat mode operative' flashed onto the screen. When I pressed the space bar I instantly got my shield bonus and went straight to the next level. This happened every time.
SIMON CARTY,
Castle Donington, Derby.

GOAT II

LOOK WHAT I found out whilst playing the goat on *Mugsy*. When Joey asks how much you're going to play The Boys to keep them loyal — type in a minus number. The amount'll be added to the dollars you already have.
MARC WHITAKER,
Colne,
Lancs.

● And The Boys stay loyal? Mugs.

CBM FRILLS

Here are some tips for CBM 64 users.

POKE 650,N — This Poke enables the user to have Repeat Keys. Make 'N' between 128 and 255 to turn them on, and 1-127 to turn them off.

POKE 56325, (0-255) — This'll give you a super-fast cursor. Speed range is from '0' (fastest) to '255' (slowest).

POKE 808,251 — The security Poke. Will disable the RUN/STOP and RESTORE.

SIMON FONG,
Charlton SE7.

COLOUR SECTION

IN your review of *Jet Set Willy* (issue 4) you said the colour security system is useless in black and white. Untrue. A grid location is displayed and looked up on a code card. Press the appropriate number — and play!
DAVID SCOTT, Ayr.

SALAD DAYS?

MY YEAR is ruined. I walked into our school computer room and saw a £1,500 16-megabyte hard disc drive, when we already have a dual disc drive. Why couldn't we have a couple of modems like American schools? Are they worried we'd break into a bank?
BAZ SIMMS, Leek, Staffs.

announcing . . .

THE BIG K AWARDS READERS' POLL 1984

GAME OF THE YEAR

PROGRAMMER OF THE YEAR

SOFTWARE COMPANY OF THE YEAR

ARCADE GAME OF THE YEAR

ADVENTURE GAME OF THE YEAR

SIMULATION OF THE YEAR

COMPUTER OF THE YEAR

WIDGET OF THE YEAR. Peripherals only.

BEST PACKAGING OF THE YEAR

BEST AD OF THE YEAR

CRASH OF THE YEAR. Open category.

LAME GAME OF THE YEAR. Software only.

NAFFWARE OF THE YEAR. Peripherals only.

GOOD IDEA BUT . . . (OF THE YEAR)
Or Most Majestic Failure. Open catergory.

HYPE OF THE YEAR. Open category.

BROKEN PROMISE OF THE YEAR. Open category.

RIP-OFF OF THE YEAR. Open category.

MOST PLUNDERED CONCEPT OF THE YEAR. Software only.

WORST PACKAGING OF THE YEAR

WORST AD OF THE YEAR

THE FIRST 25 POLL ENTRIES OPENED WILL EACH RECEIVE A LUCKY DIP FROM THE FAMED BIG K MYSTERY SOFTWARE HOARD — SO TO BE SURE TO INCLUDE ANY DETAILS OF COMPUTER(s) YOU OWN — *AND GET THOSE ENTRIES IN FAST!*

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Computer(s) Owned...

Twenty Categories Of Distinction

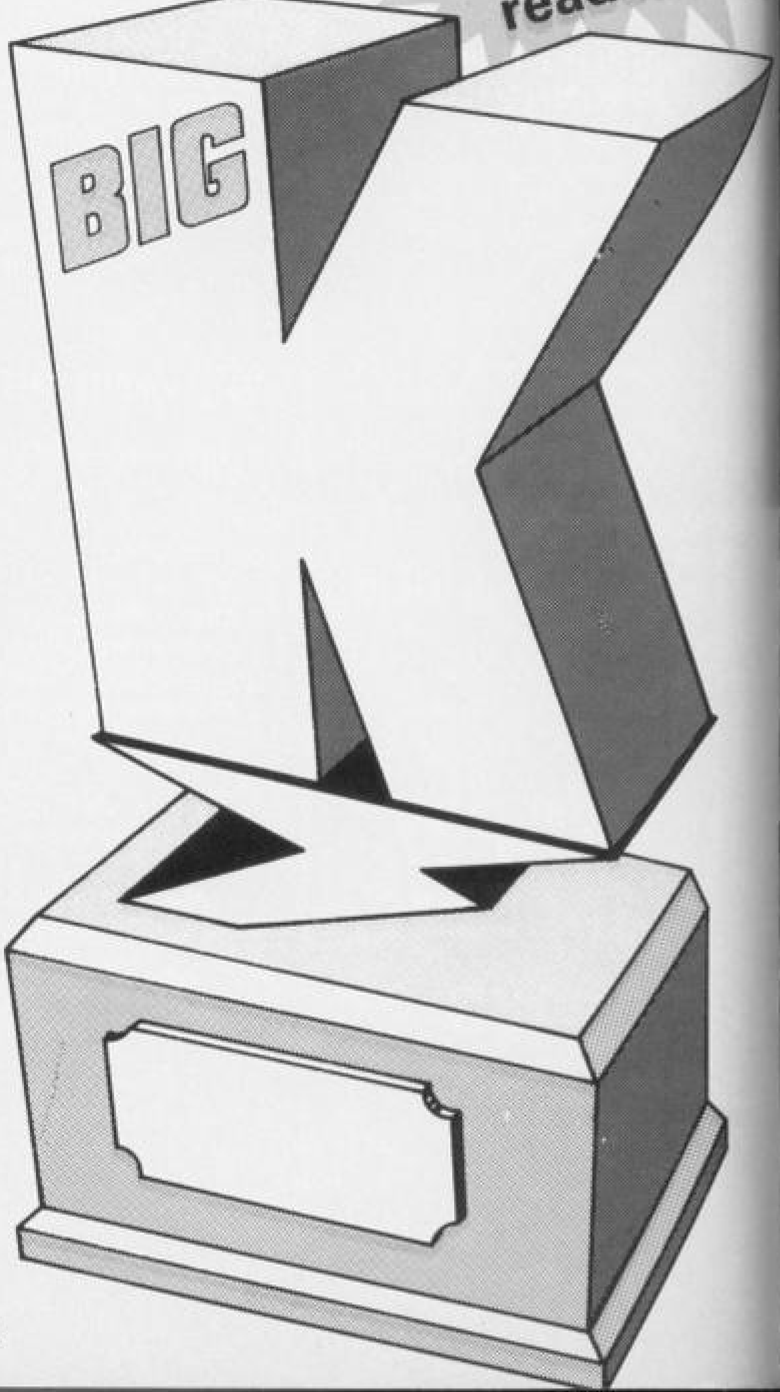
IT'S MAKE YOUR MIND UP TIME

YES, IT'S the event they've all been waiting for with bated breath! The first-ever BIG K Readers' Poll is upon us. The Poll that gives *you* your chance to pass verdicts on everything that's come your way throughout 1984.

All you have to do is vote for your choice under each category, cut the voting form out and mail it to us here at the Tower of Power. The full address is. . .

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SAMURAI SOFTWARE

Castle of the Skull Lord

Packaged in a Special Presentation Box which includes a "Free Dust Cover" for your computer.

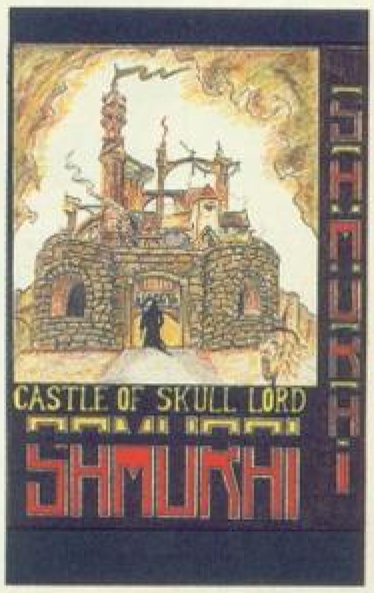
In a battle lost in the mists of time, the necromantic Skull Lord attacked and defeated a race of noble Dwarves. The Dwarves lost many treasures, the most valuable of these being the "Crown of Dwarves Kings". For many ages did they attempt to regain this artifact, and for many ages did they fail.

Now in desperation they call upon you, noble warrior, to attempt that which is beyond their power.

Your quest:– To regain the fabled crown and defeat the all powerful skull lord.

The adventure is of the classic format. Simple verb-noun combinations are expected, and will usually be understood.

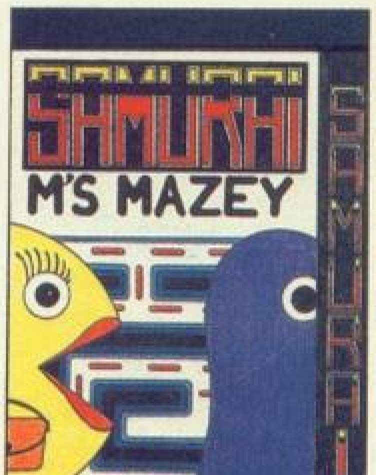






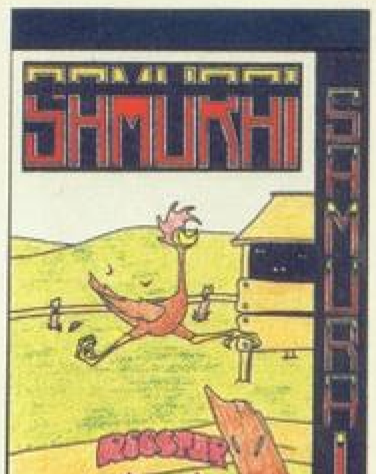
Samurai Invaders

You control a fearsome Samurai warrior whose aim is to prevent the Alien invaders from gaining control of the earth. To help you in this task, you are armed with shuriken, fearsome oriental throwing stars.



Ms. Mazey

Can you guide the intrepid Ms. Mazey around her garden maze and collect the daisies? Or will you fall victim to the evil skull riders? (In a garden?) Can you make it to the magical "flower pills". Will you get the "flower power" to zap the skulls? Will Ms. Mazey ever get to see the flower of her heart, Percy Chucka?



Rooster Run

Why DID the chicken cross the road? You don't know? Neither do we, but with the help of this game you may just find out! Your aim is to guide the hapless rooster across the road, then, get in the boat and avoid the aquamarine hazards. What could be simpler?!

Please tick the correct boxes in the mail order coupon.

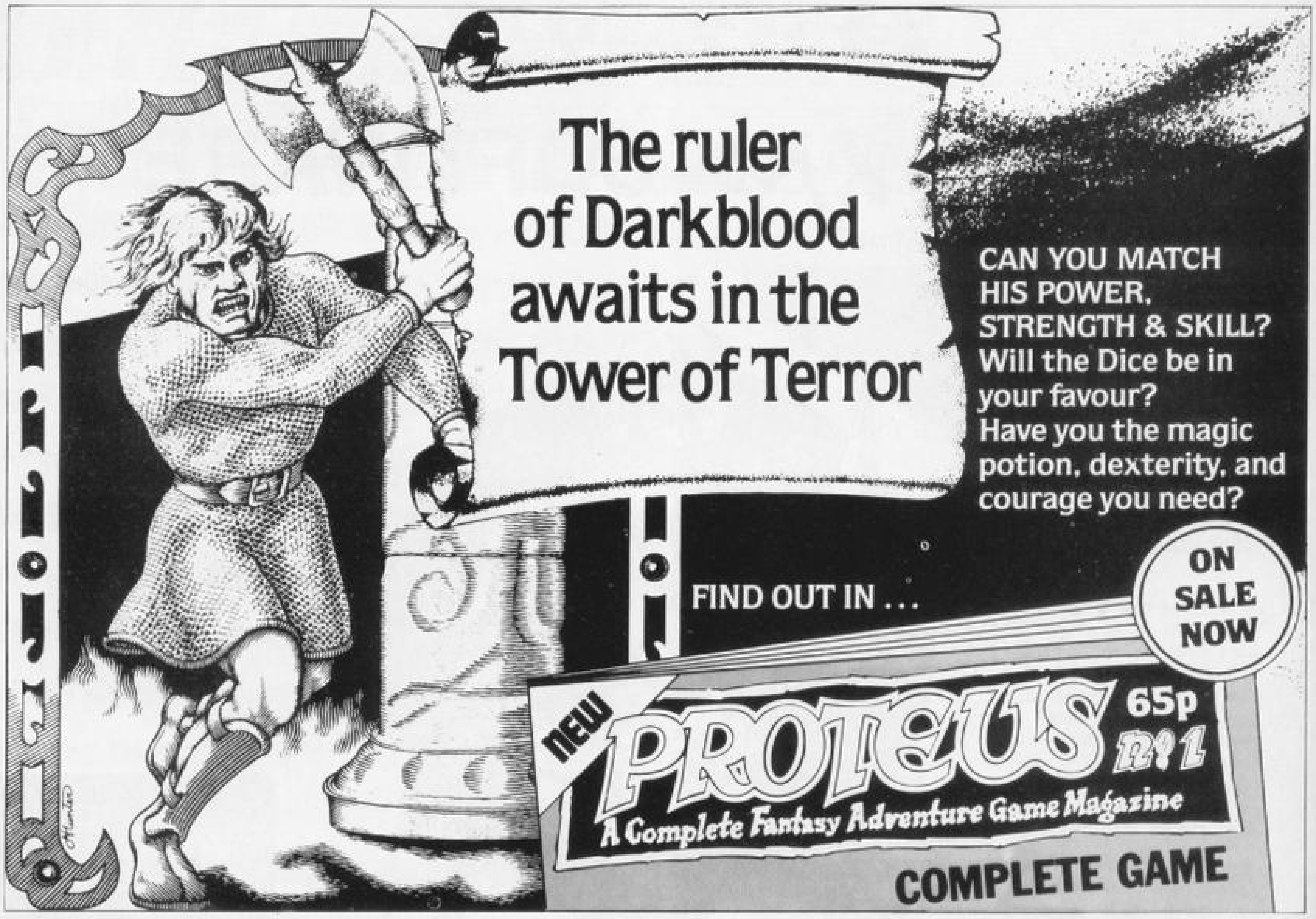
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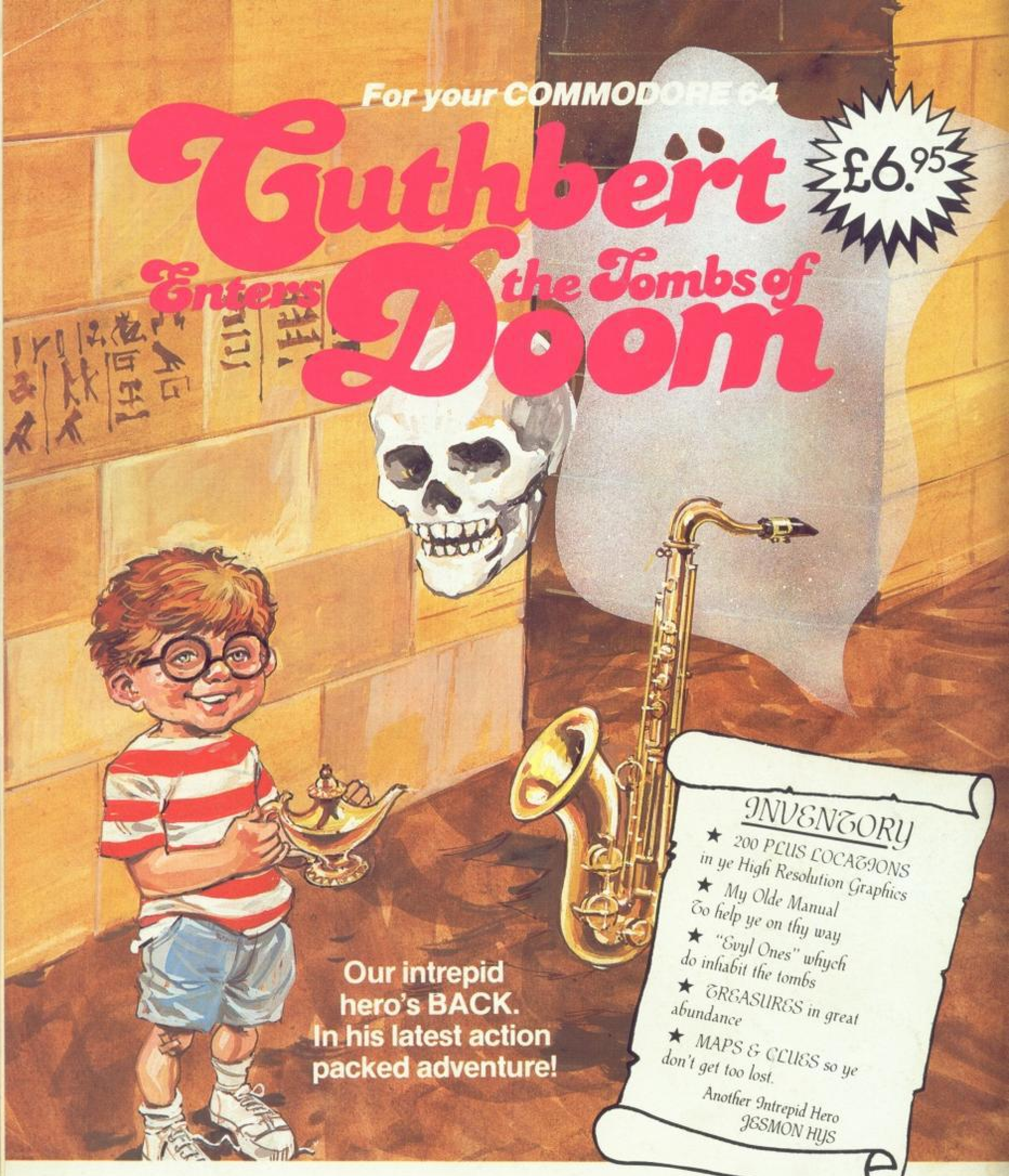


Next month CURRAH launch μSOURCE, their most advanced product yet. μSOURCE lets you write and use Assembler or FORTH in BASIC lines, so you can run these advanced languages by themselves or even 'integrate' them into BASIC programs.

μSOURCE gives you the ability to write ultra-fast, highly compact programs which use the powers of all three languages, yet is so user-friendly that even a novice will be using it in minutes! Add advanced features like a full Debug, so you can easily correct your programs, and at £44.50 you can give your Spectrum on-board programming power only found on more expensive machines.

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